A PROFILE OF THE ELDERLY ADMITTED TO THE EMERGENCY UNIT OF GROOTE SCHUUR HOSPITAL: WITH PARTICULAR REFERENCE TO THEIR HEALTH CARE NEEDS

BY

PENELOPE M. SCHUURMANS-STEKHOVEN

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This study is the first of its kind undertaken at Groote Schuur Hospital. It is an attempt to provide a holistic profile of their elderly patients with a view to encouraging further, more specific research, and to provide information for use in the planning of efficient health care for the aged. The study was based on three premises: (i) there is an interrelationship between the ageing process and disease; (ii) a non-disease-specific approach which focusses on the functional status of elderly patients can be used as a predictor of health services consumption; and (iii) any study which promotes understanding of the dynamics of health care of the elderly must also take into account the ageing process and its effect on a particular population within a specific social context.

The research spanned 52 weeks (1 March 1989 - 27 February 1990). A sample of nine patients per week was selected from the total population of patients aged 65 and over admitted to the Emergency Unit of Groote Schuur Hospital. Two adult female researchers, using structured questionnaires, constructed in English and comprising sub-tests, utilising indexes and scales, interviewed respondents and/or household members in their own homes. Data was also obtained from the hospital files. Although essentially descriptive by nature, use was made of groups in regard to variables such as "first admission" (admission to the Emergency Unit), and "readmission" (a previous overnight admission in the preceding year). Statistical analysis, where indicated, was by means of non-parametric tests.

The sub-tests used for this study included the Instrumental Activities of Daily Living (IADL) Scale, the Physical Self-Maintenance (PSM) Scale, the Philadelphia Geriatric Center (PGC) Morale Scale and the Mini-Mental State Examination (MMSE). Although their representativeness had been established in the countries of origin, this was not the case under local conditions. The random sampling techniques enabled quantification of the interrater and intertest reliability of items in the questionnaire by means of the Kappa test. Overall, reliability was found to be variable. In particular the PGC Morale Scale and MMSE were not reliable.

Confirming the literature reviewed, impairment of function, a feature of ageing, was common, and in particular, impairment of cognition, eyesight, shopping, housework and laundry abilities. Although participation in leisure activities was limited, morale was relatively high. Most respondents had well-established informal support networks, and little or no use for formal support services. Although most were in receipt of a state pension there was another source of household income and many received additional outside material or financial aid. Contrary to expectations, the housing situations were mostly favourable: most living in homes with amenities such as electricity, inside toilet, electric or gas stoves and refrigerators. There was little evidence of overcrowding and lack of privacy and the homes were close to transport and medical facilities.

Chronic illness requiring different levels of care is a feature of ageing. The findings show that almost all respondents had both major and secondary relevant medical problems, the most common being cardiovascular, pulmonary, gastro-intestinal and diabetes. A few had a relevant major psychiatric problem. After admission almost a third were transferred to other wards, while nearly half had a previous overnight admission to Groote Schuur Hospital and/or perceived a need for spectacles. Finally, readmission was found to be related to increasing dependency, having a secondary relevant renal and/or "other" medical problem, a follow-up appointment at Medical Outpatients, and referral to a social worker.

The most important conclusions reached were that use of Groote Schuur Hospital by the elderly may be inappropriate, and that the instruments used for assessment of elderly patients may be unreliable and invalid under local conditions.

It was recommended that (i) ongoing research should be undertaken to establish the reliability and validity of measurement instruments, but that in the meantime they should only be administered by trained personnel, using instruction manuals, who should ideally, be attached to geriatric assessment programmes; (ii) the elderly should be encouraged to exercise regularly and become more involved in the running of their homes; (iii) families should be encouraged to make financial provision for their old age by attending retirement planning courses; (iv) there should be better linkage among the GSH Geriatric Unit consultants and primary care physicians as well as increased education in geriatrics

and psychogeriatrics among physicians and medical students; (v) Groote Schuur Hospital social workers should become more committed to the discharge planning process, which should include comprehensive assessment of the functional abilities of patients; (vi) small community based and run day-care centres which offer medical, nursing and ancillary services should be developed; (vii) similar research should be undertaken on an ongoing basis.

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1. INTRODUCTION

In 1981 the Chair of Geriatrics was established at the University of Cape Town. This was in response to the growing awareness, in South Africa as elsewhere, that the elderly had needs that could be defined and measured which were different to those of younger people. In addition, there was the very real demographic reality that the number of elderly, both in simple numbers and as a percentage of the total population, was increasing dramatically locally and world wide. In fact, in the United States, as in most economically developed countries, the trend has been labelled inter alia "demographic revolution" and the "graying of America" (Kaplan and Haan 1989:27).

The Geriatric Unit at Groote Schuur Hospital, under the Professor of Geriatrics, was to provide an academic base from which appropriate undergraduate and postgraduate teaching could be developed, improved care for all elderly patients stimulated, services from primary to tertiary levels co-ordinated, the ageing process researched, and methods of treatment and service needs identified and developed (Meiring and Benatar 1986:566; Tibbit 1979:681).

There was agreement at the outset that in an elderly population there is an interrelationship between medical and social problems, and that a social worker was an essential member of the team. However, due to a number of factors, including budgetary pressures and a reluctance within the social work department to acknowledge the importance and prevalence of social factors in the geriatric context, the geriatric unit has always had to be satisfied with a part-time social work service.

The writer was confronted with these realities when appointed as part-time social worker to the unit in 1987. The motivation to do a research project was manifold, but included:

- to confirm the predominance of social factors in elderly patients, thereby justifying the perceived and acknowledged need for a strong social work weighting to the service provided;
- to provide information which would lead to improved discharge planning for the elderly, thereby improving utilisation of hospital resources;
- to provide some base data on the elderly population being served by Groote Schuur Hospital, it having been established that no such research had been undertaken, and
- thereby provide the authorities with information useful in the decision making process leading to the establishment of services for the aged;
- to stimulate further research in this field.

In consultation with the Medical Research Unit at Groote Schuur Hospital, it was agreed and understood that, due to the lack of local research in the field, the research would be of a broad nature, so that a profile of the elderly population could be established. The emphasis would be on the ability of the elderly to function in society, and their use of Groote Schuur Hospital.

As the research progressed it became clear that there is a great need for this type of study. Ageing is a complex, dynamic process encompassing interrelated physiological, psychological, cultural and social changes which lead to a progressive generalised impairment of function and the increasing probability of death. The aged are more prone to diseases than are younger individuals, and two or more conditions are more likely to coexist in the same individual. Finally, ageing modifies the reaction to disease, the response to therapy and thus prognosis and outcome (Kirsch 1990).

Because of the impact of the ageing process, health and health care for the elderly is not static: it is a complex set of dynamic interactions and linkages. While chronological age is one of the strongest predictors of health care use, a multitude of interacting biological, behavioural and social factors predict the need for care and the types and amounts of care that the elderly and their families receive. Health care for older people thus involves a shifting spectrum of care services that respond to changing health and social needs.

Moreover, there are no clear-cut boundaries between types of care (e.g. acute versus long-term care) and settings (e.g. community versus institutional) (Ory and Bond 1989:15).

Health care in South Africa reflects many of the problems associated internationally with modern medicine: its ineffectiveness in improving the overall health status of large populations, its rising economic costs, and the maldistribution of its resources. In South Africa, these problems have been exacerbated by inappropriate development strategies, resulting in the inadequate provision of basic services to much of the population, and by political policies which impede their effective organisation. The development of a western model of health care in an initially colonial and subsequently apartheid South Africa has, in meeting the needs of the most advantaged section of the population, failed to meet many of the needs of the oppressed and disadvantaged and has contributed to entrenching disparities in health and access to health care facilities (Savage and Benatar 1990:153).

The problem is that the imbalances which exist in the provision of health care services have had a detrimental effect on the provision of acute medical care by hospitals. Increasingly, acute medical hospitals are being called upon to admit and readmit people who are old, chronic sick, disabled, unemployed, or who have primarily socio-economic problems (Glajchen 1970:615; Hofmeyr and Meiring 1975:1614; Louw 1976:1153; Van der Merwe 1977:407; Wolff 1978:116; Tibbit 1979:646; Schuurmans-Stekhoven et al, in press).

Acute medical hospitals, such as Groote Schuur, are now facing a crisis. Their budgets have been cut and they are being forced to reduce their services and staff while facing an ever increasing demand for beds and services (Greenblo 1990:9). This has resulted in a rapid turnover of patients before rehabilitation and optimal health has been achieved and despite the fact that minimal follow-up services are available in the community. As a result the likelihood is that the chronicity of the illness will increase, the quality of life impaired even further and more frequent readmission required to the expensive "acute" beds, creating a vicious cycle. To remedy this situation, therefore, more appropriate and cost-effective services need to be developed.

When developing more cost effective health care services, several factors must be taken into account, particularly when it comes to an elderly population. First, there is considerable variation in the use of health care services. Evidence shows that the use of health care services is contingent upon a variety of factors including how individuals perceive and respond to illness. For instance, as people age, physical changes caused by disease may be perceived as part of the normal ageing process and left unattended even though effective treatment is available.

Secondly, there is considerable variability in the health of older people. Whilst most older people have at least one chronic illness, this belies the fact that most live independently in the community and manage their health care on a daily basis without medical intervention or social services. Thus, as Ory and Bond (1989:6) suggest, when dealing with an ageing population it is often more profitable to take a non-disease-specific approach and focus health goals on maximising independence at every level of biopsychosocial functioning, with intervention designed to enhance or maintain high levels of health and functioning.

Thirdly, ageing populations are not homogeneous. This is apparent in the heterogeneous ageing patterns of people in different ethnic, geographic, or socioeconomic subcultures. It is also apparent in the differing ageing patterns of people living in different historical periods. Cohorts of people born at different times age in different ways because of changing social circumstances, health behaviours, medical care, and other sociocultural factors operative at the time. Because society changes over time, people in different cohorts will inevitably age in different ways (Ory and Bond 1989:4).

Fourthly, there is the question of who will provide the care. The distinction between informal and formal supports is not always clear. On the most general level informal care is personal care provided by a relative, friend, or neighbour. By extension, an informal care network is a diffuse primary group characterised by its small size, affectivity, and durable commitment to each member's well-being. The rule of reciprocity would dictate that formal care providers should be defined simply as helpers recruited from outside an individual's primary group. However the careful reader of existing literature on formal-

informal care linkages may be compelled to take note of sometimes subtle definitional differences (Soldo et al 1989:194).

No matter how broadly the net of formal care is cast, it appears that even when responsibilities are shared with formal providers, informal caregivers still provide the bulk of caregiving services. They are also the preferred source of help for a majority of the elderly and do not relinquish caregiving responsibilities readily, even in the face of overwhelming emotional, physical, or financial costs (Ory and Bond 1989:11). However, shifts in caregiving are occurring and the evidence would suggest that families should be helped, particularly in a country like South Africa which has a large impoverished population. The AIDS epidemic provides another perspective. While middle-aged and older persons are not yet believed to be the major victims of the AIDS virus, they might be emotionally affected by having a younger family member diagnosed with AIDS and may have to become caregivers.

The position regarding the provision of services by the formal sector is, however, bleak. Although a wide range of welfare services for the aged is available in South Africa they are thinly and inequitably distributed. Due to inadequate co-operation and even competition some services are duplicated, yet others are limited and fragmented in their impact and value. Sometimes services are planned without an in-depth study of the real needs and available resources in the community. Furthermore, large additional funds are unlikely to be channelled into the provision of services for the aged. South Africa is currently facing an economic crisis and it is beyond the capacity of the taxpayer to support increasing numbers of aged persons.

Thus, while it is clear that additional cost-effective services need to be developed, as Riley and Williams (1989:viii) point out, they cannot simply be developed for "the" older population or "the" system of health care. In order to avoid a mismatch any service which needs to be developed must take into account the dynamic interplay between a particular population of aged and the social context in which they live.

Once it became clear that this study was of importance to Groote Schuur Hospital in the planning of additional, more cost effective services, the scope of this thesis was

broadened. In addition to a theoretical overview of the ageing process in the context of South African Society, a theoretical review of dimensions of health, disease and illness, health status in the later years, the provision of health care in South Africa and the use of medical facilities by the elderly, was included. The scope of the study was also broadened to include an examination of the functional status of the sample elderly, their economic and housing situations, support networks, medical problems, their use of Groote Schuur Hospital as well as an examination of the relationship between all these factors and readmission.

The use, in this study, of a non-disease-specific approach which focusses on the functional status of older people as a way to determine the health needs of an elderly population is not unique. Assessment of functional status is considered an integral component of geriatric medicine and has been described as complementary and analogous to a careful diagnostic evaluation. As the World Health Organisation Advisory Group state "health in the elderly is best measured in terms of function" (Becker and Cohen 1984:923). They also suggest that degree of fitness rather than extent of pathology should be used as a measure of the amount of services the aged will require from the community. Thus, functional status is not only used as a predictor of health services consumption, it is considered essential if relevant decisions are to be made. Finally, functional status is used as an administrative tool and for the education of health professionals (Falcone 1983:643; Besdine 1983:651; Katz et al 1985:681; Williams 1983:636).

A wide variety of tests have been devised to measure different aspects of functional status. By and large these tests have been found to be valid and reliable in the countries of origin. But, although used locally, most often their validity and reliability under local conditions has not been established. Due to the random selection procedures used in this study it was possible to analyse the reliability of the questionnaire. The findings which show the intertest and interrater reliability of the questionnaire are thus presented and discussed in this thesis.

Although this study describes the characteristics of the population of elderly admitted to the Emergency Unit of Groote Schuur Hospital as a whole, there is recognition of the impact of the now abolished system of classification of South Africans into population

groups. While it is acknowledged that classification of people may be challenged as unscientific, inaccurate and offensive, nonetheless population classification and the inequitable social system it underpins has had a material bearing on the life chances of South Africans (Bourne 1989:185; West and Boonzaier 1989:186). As the World Health Organisation (1983:60) point out: "In South Africa, social, economic and political institutions are so structured by an all-pervasive racist ideology and practice that they have material effects on the incidence of disease and the provision of health care. It is therefore impossible to describe the daily reality for millions of South Africans in any other way... use, however, does not imply the legitimacy of racist terminology". Although classification of South Africans by means of the Population Registration Act 30 of 1950 has now been scrapped it was still in existence when the research was undertaken and the legacy of apartheid will remain for some time to come. The writer has thus chosen, where differences may exist, to explore these differences. The terminology adopted to describe the different population groups is that which was used in the 1985 Population Census, namely: "Asian", "black", "coloured" and "white".

Finally, as already noted, the approach to this study is broad and may, at times, appear to lack attention to detail. This approach was intentional. This study is the first of its kind and hopefully will pave the way for further research. Most studies of ageing within the South African context to date have focussed on specific aspects of a particular population group. Not only does this study focus on a population but the approach to ageing is viewed holistically. There is increasing recognition that health among older persons must be approached in this way. Hess (1983:253) points out that many outcomes commonly thought to be attributable to age are actually complex phenomena with multiple origins. The ageing organism does not operate in a vacuum, but is engaged in reciprocal interaction with a particular environment, and is itself the product of life-course experiences during a given slice of history (Ory and Bond 1989:29).

1.2. THEORETICAL PERSPECTIVE

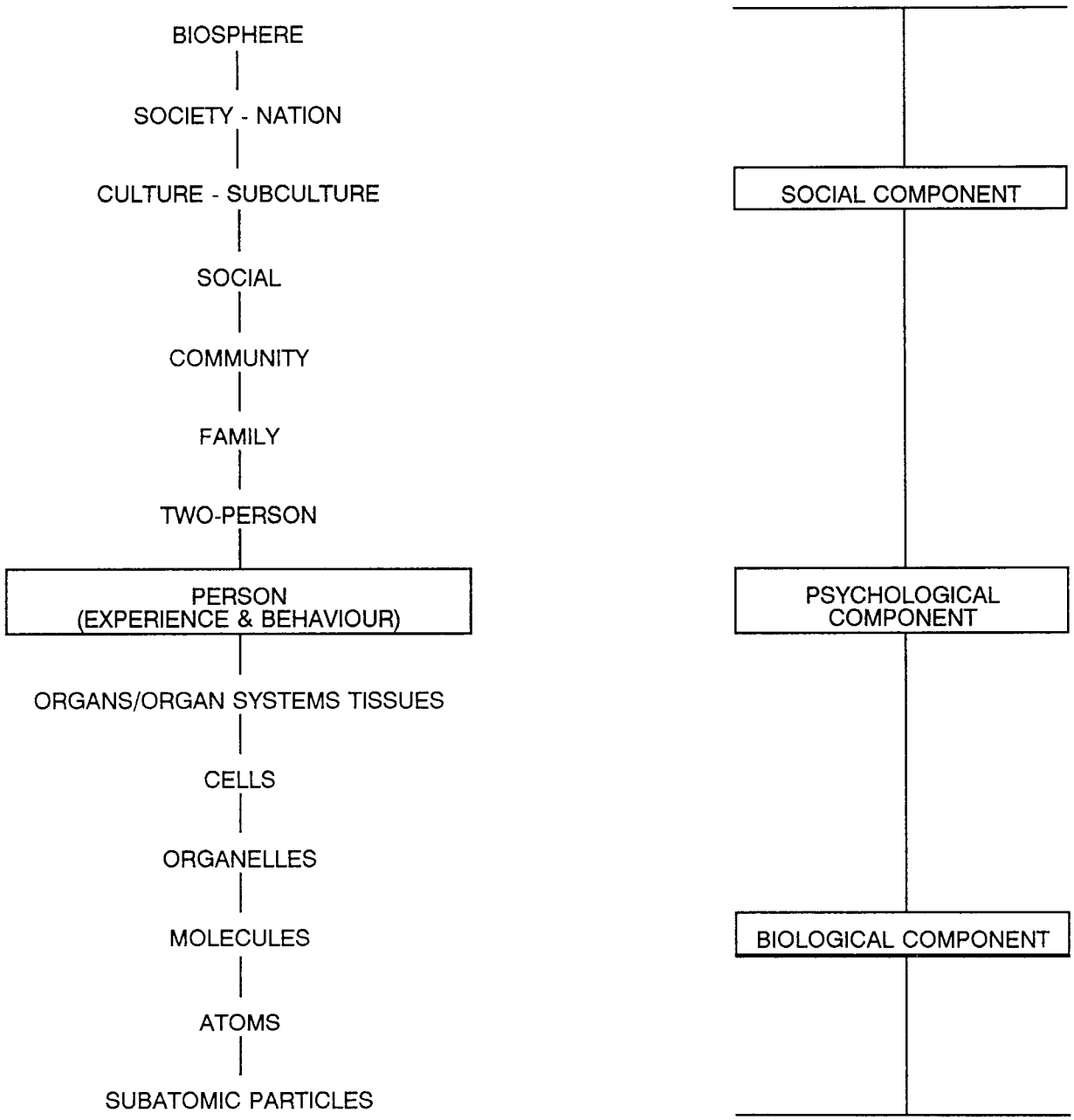
Theories or models provide a frame of reference for the orderly collection, analysis and understanding of phenomena. The biopsychosocial model proposed by Engel (1977,1980) and adapted by Becker and Cohen (1985) provides a clearer understanding of the process of ageing and provides the frame of reference for this study.

The biopsychosocial model is based on the systems theory which conceptualises life as a living system constituting a complex hierarchy of organised systems within systems. Within this perspective human experience and life is viewed as a combination of two different hierarchies comprising three major components (see Figure 1). One, the organismic hierarchy, has the person at the highest level and constitutes the biological component of the system. The other, the social hierarchy, has the person at the lowest level and contains the elements of the social component. At the interface of these two hierarchies is the person, whose biological constitution is impacted upon by social experiences and interactions to form the elements of the psychological component. The hierarchy is thus composed of various systems that function as a continuum with no one component any more or less important than another. This means that any change or disruption at one level will impact on the functioning at different levels within the system in either direction. Furthermore, in this living system, change is expected and time-dependent. Viewed from this perspective the process of ageing encompasses specific age-related changes at various levels in all three major components of the biopsychosocial system. In the biological component gradual declines occur in the physiological reserves of most major organ systems. In addition, there is an increased incidence of disease in the aged which may result in a further loss of physiological reserves. Within the psychological component age-associated alterations in perceptual and cognitive capabilities occur that can be exacerbated by concomitant disease processes. From the social perspective, ageing leads to a change in societal attitudes and the higher likelihood of losses within the support networks due to retirement or the deaths of family and friends.

These changes will vary from individual to individual. Thus ageing is characterised by increasing variance between individuals, which means that the range of variation among

the general population actually increases with age. The changes which occur ultimately result in a decline of efficiency or functioning to the point where, homeostasis can no longer be maintained and dependency or death ensues. The amount that each separate component within the biopsychosocial system contributes to the functional decline, or conversely to compensatory responses, however, fluctuates over time and among individuals.

FIGURE 1: HIERARCHY OF NATURAL SYSTEMS



Source: Becker and Cohen (1984:924)

1.3. LAYOUT

The layout adopted for this thesis is as follows:

In Chapter 2 the concern is the study. The design and methods used, including the sampling procedures, the collection and analysis of data and the format used for the presentation of findings will be discussed.

Chapter 3 focusses on the questionnaire, its construction, its content and its reliability. Attention will also be paid to the use of the Kappa test, the statistical test used to establish reliability.

Demography is of central importance to those planning services for the elderly. Chapter 4 considers aspects of the age structure of populations in general, in South Africa, and of the sample population.

An understanding of the ageing process provides the frame of reference for this thesis. Chapter 5 commences with a conceptualisation of the term "ageing". This is followed by an overview of age-related physiological changes. The findings presented and discussed include those relating to the activities of daily life: physical self-maintenance activities and the instrumental activities of daily life.

Chapter 6 includes a review of age-associated alterations in cognitive capabilities as well as personality in later life. Findings presented and discussed show the morale and cognitive state of respondents as well as a subjective evaluation of their hearing, eyesight, weight, lucidity and co-operativeness.Chapter 7, 8 and 9 focus on the process of ageing in the context of society, and wherever possible, South African society. In Chapter 7 the literature reviewed includes the role and status of the elderly in society, retirement and the leisure activities of older people. The findings presented and discussed relate to the education, occupational status and leisure activities of the sample elderly. In Chapter 8 the concern is the financial position and housing conditions of elderly people in general and sample elderly, while Chapter 9 covers their support networks.

In Chapters 10 and 11 the concern is the aged, their health and their use of health and hospital services. Chapter 10 examines the terms "health", "disease" and "illness behaviour" as well as the health status of older persons. The findings presented and discussed show the medical and psychiatric problems of the respondents, their use of, and need for, functional aids, and their utilisation of Groote Schuur Hospital.

Chapter 11 reviews literature pertaining to health care, the health care system in South Africa, South African hospitals and the use of health care services by the elderly. Findings which show which factors are related to readmission of patients to Groote Schuur Hospital are then summarised and discussed. The actual findings are presented in Appendix 5.

In the last chapter, Chapter 12, the study is summarised, conclusions made and recommendations proposed.

CHAPTER 2

RESEARCH DESIGN AND METHODOLOGY

As already indicated, the empirical study is the concern of this chapter. The design and methods used, including the sampling procedures, and the collection and analysis of data, as well as the format used, will be discussed. Discussion of the construction and content of the questionnaire is undertaken in Chapter 3 along with the presentation of findings showing intertest and interrater reliability.

2.1. RESEARCH DESIGN

The design of research depends on two issues addressed in the problem formulation phase: feasibility and purpose (Rubin and Babbie 1989:237). A feasibility, or pilot study was conducted in the Geriatric Outpatient Clinic of Groote Schuur Hospital (GSH) prior to the design of this study. This study comprised the first 50 new patients attending the clinic from June 1987 who were interviewed by the writer, using a structured interview schedule to record the following data:

(i) demographic characteristics (age, sex, marital status, population group);

(ii) medical details (transport used to reach clinic, type of patient, referral source, number of active and relevant past medical problems);

(iii) functional status (activities of daily living, use of free time, weight, cognition, hearing, sight);

(iv) financial position (income, source of income);

(v) housing and environment (type of dwelling, amenities in the home, living and sleeping arrangements, amenities, negative environmental factors, family transport);

(vi) support network (location and contact of social supports, use of and need for community resources).

On examination of the data it became apparent that a study of this nature was feasible but could not be undertaken in the Geriatric Outpatient Clinic. The population, unlike the general population of GSH, is predominantly white, thus not representative of the total population of elderly who attend or are admitted to GSH.

In the financial year 1 April 1989 - 31 March 1990 a total of 738 383 patients attended GSH as outpatients (excluding maternity outpatients), while there were 56 597 inpatient admissions (excluding maternity patients). In addition 31 064 patients were seen in the Accident and Trauma Unit, 4 319 in the Psychiatric EU and 55 000 in the EU (Groote Schuur Hospital 1990). Clearly a study of this nature could not include the whole population of elderly patients attending or admitted to GSH.

Of these various units, and in order to make the study manageable, the EU was selected for several reasons. It serves the broadest possible sector of the patient population of GSH. Patients present from different sources and with a wide spectrum of health problems. Patients are either sent by the Outpatient Departments of GSH, come of their own accord or are referred by a clinic, district sister or physician in the community.

The EU has four sections: the Asthma Room, a short-stay Ward, the Triage area, and the Ante-room. Varying and ambiguous explanations have been supplied to account for the differences between the Triage area and the Ante-room. It seems that patients presenting with less serious problems (e.g. influenza) are screened in the "Triage" section while those with more serious problems in the "Ante-room". Patients found to have more serious problems and initially admitted to the Triage area may be transferred to the Ante-room. Patients from the Ante-room are also more likely to be admitted either to the EU ward for short stays or pending transfer to another ward, than patients screened in the Triage section. The Ante-room was selected as the unit of analysis for this study. But, although the population selected for this study is not representative of the total population of elderly patients admitted to hospitals in South Africa, or the total population of elderly in South Africa, it is a defined population, representing patients presenting at GSH.

The purpose and design of this observational study, in which phenemona are recorded "as they lie" at a certain point in time, is both exploratory and descriptive (Finestone and Kahn 1975:47; Reid and Smith 1981:64,67; Rubin and Babbie 1989:186; Wechsler et al 1976:66). Selected variables, such as living conditions are described and then their possible relationship to readmission of the sample is examined. In addition the reliability of the measurement tools used is analysed, thereby laying the groundwork for more definitive and systematic studies. There is holistic delineation of phenomena (patients aged 65 and over, admission to hospital) as well as specification of physical, psychological, and social factors encompassing the process of ageing.

In this study both the independent variable (patients aged 65 years and over) and the dependent variable (admission to the EU of GSH) are known with some precision. However, no attempt was made to control for antecedent, intervening or extraneous variables. Moreover interrelationships between variables are not measured and although correlations may be established, differentiation between cause and effect was not explored.

2.2. SAMPLING PROCEDURES

The population selected for this study comprised all patients aged 65 and over admitted to the Ante-room of the EU of GSH during the fifty-two week period, 01h00, Wednesday, 1 March 1989 to 24h00, Tuesday 27 February 1990. Figures relating specifically to elderly patients admitted to the Ante-room were taken from the Ante-room register. The register for the period March - August 1989 disappeared during the move to new premises late in 1989. During the time of the actual research, the researcher only recorded the total number of elderly patients admitted to the Ante-room on a weekly basis. Thus although the monthly figures could not be calculated the loss had little impact on the overall findings as it is still possible to state that during the study period a total of 56 120 patients were admitted to the Emergency Unit of GSH. Of this total 12% (6 745) were aged 65 and over and were admitted to the Ante-room (Table 1). The total number of elderly admitted to the EU is, of course much higher, since these figures do not take into account those elderly admitted to the other sections of the EU (for example Triage).

TABLE 1: EMERGENCY UNIT ADMISSIONS, 1 MARCH 1989-27 FEBRUARY 1990

				Ante-room patients aged 65+		
Year	Month	EU patients Total	Ante-room patients Total	N	% of EU Total	% of Ante-room Total
1989	March	4 067				
	April	4 213				
	May	5 206				
	June	4 791		NOT AVAILABLE		
	July	4 923				
	August	5 436				
	Total	28 636		3 832	13,38	
	September	4 998	2 504	562	11,02	22,04
	October	5 042	2 553	559	11,01	21,09
	November	4 087	2 135	505	12,35	23,45
	December	5 432	1 928	445	8,02	23,01
1990	January	4 187	2 191	527	12,06	24,00
	February	3 738	1 951	315	8,04	16,01
	Total	27 484	13 262	2 913	10,60	21,97

The total population was not used in the study. Instead, a purposive probability sample of nine patients per week, totalling 468 patients, was drawn from the register. The register records all patients admitted to the Ante-room, and lists details such as age, date and time of arrival in the unit. At the end of each week, and commencing with the first entry for the week, patients aged 65 and over were assigned a number from one upwards in the order of entry in the register. A table of random numbers was used to select the required nine numbers, which were entered onto slips of paper and placed in a container.

Two adult females were used to conduct interviews in this study. One had previous research experience with elderly people, and the other was the writer. The latter interviewed three patients a week, the former six. The interviewers used random sampling procedures to select their samples. One selected the required number of slips, recorded the numbers drawn and replaced the folded slips into the container. The

second then drew her sample. After selection each patient selected for the sample was assigned a number in order to keep track of the questionnaires.

2.3. DATA COLLECTION

The quantitative and qualitative strategies used for data collection conform to those described by Reid and Smith (1981:87, 188), Epstein (1988:189), and Rubin and Babbie (1989:364). Direct interviews were conducted, whenever possible, within one month of the admission to the EU, and with the patients and/or their relatives/household members.

Prior to commencement of this research the interviewers had conducted a three-week trial run. Initially the intention was to interview respondents in the hospital. However, it became apparent that most patients were discharged by the time of the interview thus it was decided to interview all respondents in their own homes, wherever possible. Exceptions were made if patients were hospitalised for long periods in that although a home visit was made and relatives/household members questioned, a further interview was held with patients in hospital.

Even if patients had died whilst in GSH a home visit was made. Others had died before being visited. Many relatives/household members found it distressing to answer too many, and too personal questions thus under these circumstances the questionnaire was shortened considerably (Appendix 2). As discussed later in the chapter, most respondents were interviewed in their own homes during the day (10h00 - 18h00). As many patients had no telephones and could not be contacted readily, all initial visits were unannounced. However, if no-one was at home a message was left and one follow-up visit was made. Visits were only made to patients living within the area of Greater Cape Town.

When admitted to the home, the researchers introduced themselves and respondents were asked if they would be prepared to participate in a research project. The aims of the research project were outlined briefly and participants were invited to ask questions which would be answered if at all possible. The researchers also explained that they were not

there to give help or advice, merely to record their answers which would be treated with confidence. Most patients co-operated willingly and enthusiastically.

Although interviews were structured according to the data collection instrument, when necessary, questions were asked in an open-ended way to enable discussion of meanings. If the elderly person was not available or unable to communicate relatives/household members supplied responses where possible. In addition not all the information was collected during interviews. Medical problems, and the number of previous admissions, for example, were obtained by the writer from the patients' hospital files after the interviews had taken place. Permission to undertake the research and therefore, to peruse the files, had been granted by the management of GSH prior to commencement. Although it could be argued that this is unethical this is the policy adopted by the hospital.

Checks were continually made in an attempt to ensure conformity as regards questioning and scoring techniques. During the trial run both interviewers interviewed the same patient separately or together and then comparisons were made. Once the study had commenced, fortnightly meetings were held between the two researchers. Finally, because of the above-mentioned random sampling procedures, 91 patients were selected by both interviewers. Once a month the interviewers visited one of these patients together as an ongoing check of interviewing techniques and selection of scores.

All scores recorded were checked twice, the first time with both researchers. In those instances where the same patient had been visited scores were compared. The scores were also checked against information obtained from the folders, (income, race, age, mental status, sex, transport used to get to the EU and follow-up appointments). Any differences found were discussed by the interviewers and, if considered appropriate, the most suitable response scored. It was not considered appropriate to change scores recorded for a subjective response, for example: the PGC morale test scores; weight, co-operativeness and lucidity scores, frequency of contact/participation scores and proximity to nearest cafe, bus/train or clinic/hospital. Finally, the medical and psychiatric diagnoses were categorised by a physician attached to the Geriatric Unit.

2.4. ANALYSIS OF DATA

Due to the random sampling procedures 91 patients (182 questionnaires) were selected by both researchers. Although patients were interviewed by both researchers, in order for all elements to have equal representation, only one of the completed questionnaires was used for analysis purposes. Selection of the one questionnaire used was undertaken on a random basis. Data for four additional patients could not be used: one was untraceable as the folder was missing, and three were later found to be under 65 years old. Eleven patients were selected on more than one occasion. As some patients were reluctant to be re-interviewed it was decided not to include second-time around patients. The final composition of the sample is presented in Table 2.

TABLE 2: COMPOSITION OF SAMPLE

Total number selected	468
Untraceable/under 65 years	4
Patients interviewed by both researchers	91
Patients selected more than once	11
Total sample used	362

Although the sample of 362 represents an acceptable tolerated error of 6% on the 95% confidence level, due to problems with data collection not all questions were answered or scored. For deceased patients details pertaining to functional status, for example were considered inappropriate, others were considered too sensitive. Other respondents did not know the answers, while others refused to answer certain questions.

Some of the questions had to be answered by the elderly, but not all were available, able, or willing to answer. Others could not be interviewed in their own homes. Of the total of 362 patients, 222 (61%) were interviewed: 207 (93%) in their own homes; and 15 (7%) in hospital (GSH or another hospital), or in the homes of friends or other relatives. One hundred and forty patients (29%) were not interviewed for the following reasons:

- Died (66)
- Moved and/ or untraceable (36)
- Out and/or unavailable (15)
- Refused to answer (11)
- Communication problem (8)
- Too confused (3)
- Depressed level of consciousness (1)

The entering and statistical analysis of data was undertaken by the Institute for Biostatics of the Medical Research Council. The checking of the entered data was undertaken by the writer, who was also actively involved with the analysis of data and provided direction as to which items should be cross tabulated (e.g. marital status and sex; leisure activities and education; morale; level of schooling and population group; support in the home and functional impairment).

Although essentially descriptive by design, use was made of groups in regard to variables such as "first admission" (attendance at the EU) and "readmission" (previous overnight admissions). Thus analysis was by means of univariate or contingency table analysis using, when appropriate, non-parametric statistical tests, such as Chi-square, Fisher's exact test, Wilcoxon matched-pairs signed-ranks test, and Spearman's r_s. The Kappa test was used to determine the reliability of the questionnaire.

2.5. FORMAT USED FOR PRESENTATION OF FINDINGS

The format described by Dixon (1985:153) will be adopted to present the findings of the Kappa test. The measures of association (Reliability) will be given as well as an estimate of the asymptotic standard error (ASE1). This asymptotic standard error can be used to set 95% confidence interval for the parameter being estimated - the limits are value $\pm$ 2 ASE1. The t-value, or the ratio of the statistic to its estimated asymptotic standard error under the null hypothesis that the parameter is zero, although calculated will not be presented.

Wherever practical, descriptive data (frequencies, percentages) will be displayed using frequency distributions and polygons. The main trends will then be summarised in more detail. As noted earlier in this chapter not all questions were applicable to all patients, yet others were not answered. Individual totals and missing frequencies will thus be shown or noted.

The presentation of findings where the Chi-square test was applied will show frequencies, percentages, and p-values. A probability level of 0,05 was used for valid findings. Note is made in the text of significant findings.

CHAPTER 3

THE QUESTIONNAIRE: CONSTRUCTION, CONTENT AND RELIABILITY

Research aims to be valid and reliable. Validity is achieved if the measuring instrument used measures what it is supposed to measure, while the degree of accuracy, or precision the instrument possesses is called reliability (Bostwick and Kyte 1988:111). Due to the random selection procedures used in this study it has been possible to analyse the reliability of the questionnaire. This is the aim in this chapter.

The layout in this chapter is as follows. In the first instance the focus is on methods used to establish the reliability of measuring instruments and on the Kappa test, the particular statistical test used to establish reliability in this study. Factors requiring consideration in the construction of the questionnaire will then be outlined. This is followed by an examination of items selected for inclusion and a summary of the findings, which are presented in Appendix 3. Lastly, there is a discussion of the findings. The questionnaires used are presented in Appendices 1 and 2.

3.1. MEASURES TO ESTABLISH RELIABILITY

A measuring instrument is reliable to the extent that independent administrations of the same instrument (or a comparable instrument) consistently yield similar results. There are three general methods for establishing reliability: test-retest, alternate-form and split-half. Test-retest is undertaken through repeated measurement. Alternate-form involves administering, in either immediate or delayed succession, supposedly equivalent forms of the same instrument to the same group of individuals. Finally, the split-half method involves administering an instrument to a group of people. The items are divided into comparable halves, and the scores on the two parts compared to determine the extent to which they are equivalent (Bostwick and Kyte 1988:121).

The test-retest method of reliability was used both prior to and during the study. It was done prior to the study in order to ensure that questions would be understood. The test-retest method was used extensively because both interviewers questioned 91 patients and/or their families.

3.2. THE KAPPA TEST

Interrater and retest reliability in categorisation involves a determination of agreement. Agreement occurs when a pair of responses fall into an identical category. There are several measures of agreement that take into account the fact that agreement may occur by chance. Kappa is by far the most widely employed of such measures, and more important, the one that has been most widely generalised and hence is the most versatile (Orme and Gillespie 1986:166). Moreover, both Kappa and weighted Kappa incorporate a correction for the extent of agreement expected by chance alone. Kappa is useful when all disagreements may be considered equally serious, and weighted Kappa is useful when the relative seriousness of the different kinds of disagreement can be specified (Fleiss 1971:378). The Kappa test was thus selected for use in this study to quantify both interrater and retest reliability.

The index for the Kappa test lies between 0 - 1 with 1 representing complete agreement and 0 no agreement. Thus measures of association (Reliability) which are less than 0,400 show "poor" agreement, while agreement between 0,400 - 0,750 is "good", and above 0,75, "excellent". This means that Reliability scores which range between 0,400 - 0,750 are acceptable.

3.3. CONSTRUCTION OF THE QUESTIONNAIRE

The following considerations had to be taken into account when constructing a suitable questionnaire:

(i) Language barriers. Family members might have to be used as translators. The home languages of the sample included English, Afrikaans and Xhosa. One interviewer was fluent in English and Xhosa, the other only fluent in English.

(ii) Ethnic and Socio-Economic Differences. The patients attending GSH are mostly poor with low levels of education. Furthermore, although both interviewers were female, similarly aged and each have four children of approximately the same age, they were from different ethnic and socio-economic backgrounds. One was a white, professional social worker attached to the Geriatric Unit at GSH. The other, although she had previous research experience with the aged, was black, mostly unemployed and had only completed one year of a social science degree.

(iii) Time. Elderly persons tire easily and the questionnaire was likely to be long because of the many dimensions to be explored.

(iv) Relevance. Not all questions were of relevance to all respondents.

As the questionnaire needed to be clear and simple use was made of contingency and matrix questions. The questionnaire was constructed in English and structured so that the most suitable response could be scored by the selection of one item during the interview. Prior to use the questionnaire was tested on patients attending the EU and alterations were made as needed.

3.4. SELECTION AND RELIABILITY OF ITEMS USED IN THE QUESTIONNAIRE

The structured, standardised questionnaire, utilising indexes and scales, can be divided into sub-tests. In this section there is examination of items selected for inclusion in each of the sub-tests, and a summary of those findings where the Kappa test was applied. The actual findings are presented in Appendix 3.

3.4.1. HOSPITAL DETAILS AND FUNCTIONAL AIDS

As an adjunct to medical treatment GSH provides certain functional aids. If others are needed but not available referrals to outside sources are made. The findings pertaining to the use of, or need for, functional aids are thus included with those pertaining to the hospital details.

(i) Hospital Details

This study is concerned with the use made of hospitals by the elderly. Due to the design of the study most hospital details were obtained retrospectively by the writer of this thesis, who as noted earlier, is a social worker. Choice of data was limited to the following : (a) relevant medical and psychiatric problems (b) whether and where patients were interviewed, (c) whether patients were transferred to locations other than the EU, (d) number of hospital admissions during year prior to admission to the EU, (e) the method of transport used to get to the EU, and (f) follow-up appointments, if any.

The writer listed all the medical diagnosesand complaints recorded in the files which were categorised by a physician using a nominal scale. No attempt was made to determine the severity or frequency of the disease or illness and only relevant problems were included. The problems were also sub-divided into the major relevant medical/psychiatric problem and secondary relevant medical/psychiatric problem(s).

(ii) Functional Aids

Problems with eating, sight, hearing, or mobility may well be alleviated or minimised by the use of aids such as false teeth, spectacles, hearing aids and walking sticks. Patients and/or their families were asked if they used or required an aid. Responses were categorised on a 4-point scale ranging from no use to requires one.

Responses to only five out of the eight items could be statistically computed (Appendix 3 - 1). Reliability of all five was acceptable with the scores of three having the use of, or need for, a hearing aid, walking stick or "other" showing excellent agreement ($K>0,75$).

3.4.2. DEMOGRAPHIC CHARACTERISTICS

Demographic data are of interest to a study of this nature since they depict the structure and composition of the population and provide useful data for the planning of services. Those selected for this sub-test included population group, sex, age, marital status, place of birth, and length of stay in the Cape Province.

The data was recorded using nominal measures and wherever possible checked against similar data contained in the patients' hospital folders thus there was no need for statistical analysis.

3.4.3. ACTIVITIES OF DAILY LIVING

Impairment of function has been shown to result from the ageing process. Impairment may lead to increasing dependence on others for help with daily functions such as cooking, bathing, dressing, and walking. Lawton (1972) has divided these into the basic self-maintenance functions and the instrumental activities of daily living (Lawton 1971:469; Katz 1983:724). The tests he devised to cover these two aspects, the Physical Self-Maintenance (PSM) scale and Instrumental Activities of Daily Living (IADL) scale were used in this study. These tests (cf Lawton 1971) and the findings relating to the reliability of the responses are examined separately below.

(i) Physical Self-Maintenance Activities

The Physical Self-Maintenance (PSM) scale measures degrees of dependence in regard to toiletting, feeding, dressing, grooming, physical ambulation and bathing (Lawton 1971:471). However, for this study the original five categories ranging from completely independent to total dependence were reduced to four. Four categories simplified scoring and were considered sufficient for a broad study of this nature.

The PSM scale allows for a hierarchical ordering between the six functions in order that a combined measure can be used to measure change over time. The construct validity of the measure was affirmed by the observation that certain recovering disabled patients passed through successive stages that paralleled the order of development of these basic functions in children (Katz 1983:723). In this study these measures were not used. The scores used ranged from 1 (independent) to 4 (dependent). Thus low scores depict a high degree of independence.

Except for the "feeding" score the reliability of intertest and interrater scoring is respectable (Appendix 3 - 1). The reliability of the total score and of the assessment of

toiletting ability was excellent (K>0,75); and for dressing, grooming, physical ambulation and bathing, good (K>0,50).

(ii) Instrumental Activities of Daily Living

The instrumental activities of daily living are on a somewhat more complex level of organised human behaviour than the basic physical self-maintenance activities (Katz 1985:723). They are concerned with a person's ability to cope with the environment in terms of such adaptive tasks as shopping, cooking, housekeeping, laundry, use of transport, managing money, managing medication and use of telephone. As this study is also concerned with the need for additional services, questions which would reflect need were included in the Instrumental Activities of Daily Living (IADL) Scale.

The IADL scale is similar to the PSM scale and again the scoring system was not used for this study. Ability was thus rated on a scale of 1 (independent) to 4 (totally dependent). Once again the findings (Appendix 3 - 2) show that the intertest and interrater reliability of measures to determine the ability of respondents to undertake the activities of daily living is acceptable. Agreement as regards the total scores was excellent (K>0,75), while those relating to the eight individual "ability" scores, good (K>0,40).

The findings relating to "need" were variable. Agreement was excellent as regards the need to prepare meals (K>O,75) and as regards shoppping, laundry, travelling by public transport, and administering medicine, good (K>0,60).

3.4.4. USE OF FREE TIME

Aged persons usually have a greater amount of discretionary, or free time than do younger adults. The use of this time has a direct bearing on well-being.

As will be discussed later a wide range of factors, including past and present life-styles, influence the way people spend their free time. The sub-test concerned with use of free time thus includes: (i) educational level attained by respondents, (ii) their past and present occupations, (iii) their choice of, and participation in, leisure activites.

(i) Education and Occupation

With regard to education and occupation, respondents were asked (a) how much schooling they had, (b) if they were working at the time of the interview and if so, the type of work, and how much time they spent at work, and (c) their main occupation before retirement. Nominal scales were used to record responses.

There are no findings to show intertest and interrater reliability of the responses relating to (a) schooling or (b) having a job at time of interview, type of job, and whether it was regular or casual or full or part-time. All the findings relating to the main pre-retirement occupations of respondents where statistical analysis was valid, show excellent intertest and interrater agreement (K>0,75) (Appendix 3 - 2).

(ii) Leisure Activities

McNeil et al (1986:46) state that there is a lack of a standard activities inventory. For this study respondents' involvement in nine categories of social, physical, religious and recreational activities were selected and scored using a 4-point scale ranging from high (4) to low (1).

As regards participation, intertest and interrater agreement was good or excellent (K>0,50) in all but one item (item 8). However, the scores relating to frequency were less reliable (Appendix 3 - 3), only two items (3 and 5) out of a total of nine items were found to be reliable (K>0,50).

3.4.5. MORALE

Morale, which is linked to well-being, is an integral component of personality, which Bischof (1976:170) describes as an omnifarious term encompassing all varieties and forms of behaviour.

Although a wide variety of tests have been developed most focus on a specific aspect of personality functioning. Moreover, after reviewing personality tests and their use with the aged, both for research and for clinical requirements, Lawton et al (1980) offered the unhappy conclusion that "the current state of the art is not encouraging". Nonetheless

there are some instruments which focus on psychological well-being and which show potential clinical usefulness with elderly patients (Granick 1983:735).

One test found to be clinically useful, the Philadelphia Geriatric Center (PGC) Morale scale (cf Lawton 1971) is used in this study. This test has been found to be successful as a measure of diverse aspects of morale, including anxiety, loneliness, pessimistic outlook, dissatisfaction with the environment, and negative attitude toward ageing.

The PGC Morale Scale is a brief 21-item scale which phrases questions in a simplified way, forcing responses into an "either-or" format for which a score of 0 or 1 is given. Content is orientated to aged individuals and the test can be completed within 5 - 15 minutes. Administration is simple and flexible. The patient can complete it alone, or the questions can be read aloud with the responses being recorded by the examiner. Reliability studies have produced acceptable test-retest and/or split half correlation levels. In addition, the validity studies have found evidence of significant relationships with concurrent measures and some support for appropriateness of content (Lawton 1971:477).

Despite the reliability and validity of the overseas studies, the findings of this study are not reliable (Appendix 3 - 3). Agreement in only three items (3, 4, and 10) was good (K>0,40). However, agreement as regards the total score was excellent (K>0,75).

3.4.6. COGNITIVE FUNCTIONING

Cognitive impairment, defined by Folstein et al (1985:228) as "a diminished capacity to know the world", occurs with increasing age, and is associated with delayed discharge and early readmission to hospital.

The extent of cognitive impairment can be measured by formal psychological tests, such as the Wechsler Intelligence Test, the Wechsler Memory Test, particular achievement tests, and tests of language and motor skills function. These tests offer the great advantages of standardised procedure, quantification and cumulative knowledge based on experience (Folstein et al 1985:229). However, they are often impractical and difficult to administer to the elderly, who may be subject to easy fatigability, sensory impairments,

or discomfort (Lekan-Rutledge 1989:67). As a result shorter tests, or clinical aids, have been developed. One such aid, the Mini-Mental State Examination (MMSE) developed by Folstein et al (1985:229) was, at the time of the study, used in the Geriatric Outpatient Clinic at GSH and by the Psycho-Geriatric Unit at Valkenburg Hospital and so chosen for this study (cf Folstein, Folstein and McHugh 1975).

According to Folstein et al (1985:229) the MMSE is based upon many items drawn from previous clinical aids. It has been shown in clinical situations to have high interrater reliability and to be significantly correlated with other tests of neuropathology revealed by the CAT scan and EEG. Because MMSE items were drawn from previous tests, it has reasonably high correlations with those tests. There are, however, several MMSE items that have not appeared in previous clinical aids.

The MMSE is a very brief, easily-scored test which may be properly administered by clinical or lay personnel with very little training. It asseses orientation to time and place, instantaneous recall, short-term memory, and abilities to perform serial subtractions or reverse spelling. It also measures constructional capacities (the ability to copy a Bender-Gestalt figure) and the use of language (Anthony et al 1982:397).

Three additional questions used by the Geriatric Unit of GSH were added to the original MMSE to cope with the functionally illiterate. The total score is produced by summing the points assigned to each successfully completed task, for a total score of 0-33.

Like, the PGC Morale Scale, under local conditions the intertest and interrater reliability of most of the MMSE were not found to be within acceptable limits. Agreement in only seven items (1,2,4,9,10,11 and 14) was good (K>0,40), although that of the total score was excellent (K>0,75) (Appendix 3 - 4).

3.4.7. HEARING, EYESIGHT, WEIGHT, CO-OPERATIVENESS AND LUCIDITY

Functioning may be seriously impaired by an inability to hear or see. Impairment of hearing and sight occur as a result of ageing and also by the superimposition of pathological changes. Since an accurate measure was not possible, the patient and/or

relatives/family members were asked for their perception of hearing and sight. Statistical analysis of the "hearing" findings was not possible due to inadequate data. As regards eyesight agreement was good (K>0,65) (Appendix 3 - 5).

Food is essential to health and to the quality of life. The physiological changes associated with ageing may lead to eating and dietary problems. Due to the differences in the dietary habits between the population groups, it would not have been possible to determine the extent of any feeding problem. However a subjective evaluation of weight was included, but was not found to be reliable (K<0,40) (Appendix 3 - 5).

A lack of co-operativeness and lucidity on the part of the patient when responding to questions may either reflect cognitive impairment, or be manifestations of underlying psychiatric disorder. A subjective evaluation by the interviewers was thus considered of importance. Agreement as regards the evaluation of co-operativeness was excellent (K>0,75), but of lucidity, unreliable (K<0,40) (Appendix 3 - 5).

3.4.8. HOUSING AND ENVIRONMENT

According to Rubenstein et al (1989:562) the maintenance of patients' quality of life is recognised as a major goal of medical practice and includes, in addition to health status, housing, socioeconomic or environmental factors. In this section the housing and environment of patients is considered, while the economic situation is covered in the next section.

Cultural differences as well as the prevailing living situations had to be taken into consideration when constructing suitable questions for this sub-test. It was thus decided that qualitative questions such as "what is the condition of the house?" could not be asked. Questions were confined to specific aspects such as number of rooms in the home, how many persons occupy the dwelling (excluding additional structures not attached to the house). Sensitive questions such as "does anyone in the home use dagga/mandrax" were non-specific and intended to search for possible trends.

Overall, intertest and interrater reliability of questions relating to housing and environment lie within acceptable limits (Appendix 3 - 5). Forty-six of the items had reliability scores ranging from $0,4 \leq K \leq 0,75$, eleven could not be statistically computed, while four (items 26, 38, 39, and 42) were found to be unreliable ($K<0,40$).

3.4.9. FINANCIAL POSITION

Older persons receive income from a wide variety of sources, including pension, employment, and investments, and their income may be supplemented by financial and material assistance from family, church, and welfare organisations. Moreover their income may not be the only income in the home. All of these sources were included in this sub-test.

Of the items tested only one item (item 13) was unreliable (p. 123, Appendix 3 - 8). The remainder showed excellent intertest and interrater agreement ($K>0,75$).

3.4.10. SUPPORT NETWORK

A social support system is that subset of persons in the total social network of individuals on whom they can rely for support (Ell 1984:134). A support network is vital to the health and well-being of older persons.

Ell (1984:139) notes that measurement of support has varied greatly. She points to the inadequacy of using indicators of social ties such as marital status, the presence of a confidant, and participation in social organisations to infer support as the measures exclude the subjective nature of social support and the possibility that relationships can also exert constraints or demands.

In this study the support network is divided into three sections. One concerns the availability and size of the informal supports (family, friends, neighbours). Another the use or need for community resources while the third relates to the use made of social workers.

(i) Informal Supports

In this section questions were framed to determine the availability and size of social support networks (family and friends) and the availability of help during illness or in an emergency. In addition the type and frequency of contact with family and friends is assessed using a 4-point scale, ranging from daily to less than once a month.

Eleven items showed excellent intertest and interrater agreement ($K>0,75$) (Appendix 3 - 9). The four items (10, 12, 16 and 18) found to be unreliable ($K<0,40$) concerned the frequency of contact.

(ii) Community Resources

Provision of support by professionals has been shown to enhance recovery, adaptation and compliance behaviour after serious illness and injury (Ell 1984:139). However, planning for appropriate services must take into account the type of service most needed and likely to be used.

Use or need for community resources was rated using a 4-point scale which included (a) no use, (b) uses, (c) would use, (d) would use but not available. Due to the small number of responses to categories (c) and (d) these were collapsed for the purpose of statistical analysis.

Inadequate or incomplete data prevented meaningful analysis of the intertest and interrater reliability of the findings relating to the use of, or need for, community resources. Of the seven out of seventeen items that were tested reliability fell within acceptable limits for all but two (items 4 and 13), and ranged from $0,40 \leq K \leq 0,75$ (Appendix 3 - 10).

(iii) Social Work Services

Questions relating to the use of social work services are of interest to the writer who is a social worker. Additionally, due to their particular role in a medical setting they are vital to any plan to develop services for the aged.

Respondents were asked: (a) have you seen/been referred to a social worker; (b) do you know what a social worker does; and (c) have you ever seen a social worker? Only the first item, however, was found to be reliable (K>0,40) (Appendix 3 - 11).

3.5. DISCUSSION OF FINDINGS

Measurement error is any variation in response, such as answers on a questionnaire or ratings made, which cannot be attributable to the variable being measured. These variations can either systematically (as with constant errors) or inconsistently (as with random errors) have unwanted influences on measurements. Thus, measurement error is inversely related to validity and reliability; as the amount of error increases, the validity and reliability of the instrument decrease (Bostwick and Kyte, 1988:129). Particularly for items in the PGC Morale Scale and MMSE, the lack of reliability of certain items, may have resulted from measurement error or bias arising from (i) semantic or cultural differences, (ii) social desirability bias, (iii) languages barriers, (iv) functional impairment, (v) inadaquate data, (vi) lack of validity of items. Each of these is examined below.

(i) Semantic or Cultural Differences. Mastekaasa and Kaasa (1989:315), and Ostroot and Snyder (1982:113) point out that measurement error, or bias, in the form of semantic or cultural differences, is a constant source of concern in empirical research using self-report measures of subjective and psychological well-being. As Locke (1972:297) explains, respondents have differential needs for social approval and protection of self-esteem.

Prior to the abolition of the Population Registration Act 30 of 1950 in 1991, all South Africans were classified according to four population groups: Asian, black, coloured, and white. The Asians are of Chinese and Indian descent; coloureds of St Helenan, Mauritian, Hottentot-European and Malay descent; whites of Dutch, British, French, German, Jewish, Greek and Portugese descent; while blacks can be divided into four major subgroups: the Shangaan Tsonga, the Venda, the Nguni and the Sotho (Bureau for Information 1989:60). The classification of the South African population into separate

groups was, up until 1991, part of the apartheid policy of the ruling Nationalist Party. This policy, by means of group classification, and the promulgation of laws and regulations separating the different population groups, has subjected human contact and intercourse between the groups to discriminatory and humiliating restrictions (Van der Horst 1976:8). There is a strong possibility, therefore, that the all-pervasive racist and ideology and practice which has existed in South Africa over the past 40 years, influenced the way respondents answered questions.

(ii) Social Desirability Bias. Research which does not call for objective, measurable data may be subjected to social desirability bias. As Reid and Smith (1981:207) note expectancy effects based on prior convictions may influence respondents to answer questions according to what they think would be appropriate to reveal, would be well received or would create the proper impression. It is possible that this may have occurred in this study because of the different socio-economic backgrounds of the researchers.

(iii) Language Barriers. Earlier (p. 25) it was noted that the questionnaire was constructed in English and that one interviewer was fluent only in English, the other in English and Xhosa. Yet many of the respondents were only fluent in Afrikaans, Xhosa or another language and no attempt was made to establish whether the words and phrases had comparable meanings in Afrikaans and Xhosa. Moreover translation, when necessary, was undertaken by household members. However, as Jenkins (1975:149) points out bilingual interviewers are needed if respondents are more comfortable in a language other than English and interview instruments must be carefully translated and reliability must be established so that words and phrases have comparable meanings in all languages used.

(iv) Functional Impairment. Overall, the findings show that the Mini Mental State Examination (MMSE) was not reliable, yet like the Philadelphia Geriatric Centre (PGC) Morale scale, previous studies have demonstrated high interrater reliability and validity. Nonetheless, Lekan-Routledge (1988:66) points out that drugs and communication impairments (such as aphasia) have an impact on mental status testing. She also points

out that persons who are depressed may respond to items by saying "I don't know" and therefore perform poorly.

Hays and Borger (1985:1108) also point out that it is difficult to test the reading and writing abilities of persons who are visually impaired, illiterate, or physically unable to draw. This is born out by findings of studies undertaken in the United States where the MMSE was developed. For example, Anthony et al (1982:406) found that certain items, for example the design copying item, are biased against persons over 60 years of age and those with less than eight years of schooling. In another, by Folstein et al (1985:232), it was found that the MMSE does not diagnose cognitive impairment. All it shows is the need for further evaluation. In this study, as the findings presented later show, over two-thirds (69%) of the sample had either no schooling or left school before, or on completion of Standard 5 or primary school, which is lower than the equivalent of an eighth grade education in the United States. Moreover the vision of 130 (56%) was impaired, even with the use of spectacles.

(v) The findings show that some of the questions, such as those relating to the financial position and housing situations of the patients, could not be computed statistically because of a lack of sufficient data. It has also been noted that not all questions were answered or scored. While some items were collapsed for analysis nonetheless incomplete or inadequate data may also have created distortion or bias as assumptions may be made without verification of their reliability. For example due to small numbers the findings relating Asian elderly were collapsed and included with the findings relating to coloured elderly. However, as will become clear, there are cultural and socioeconomic differences between these two population groups.

(vi) The lack of reliability of certain items, and in particular items in the MMSE and PGC Morale scale, may well have occurred in the first instance because these tests were simply not valid under local conditions. The validity of the questionnaire was not examined. But, while validity and reliability have been treated as separate properties, they are in fact related. Bostwick and Kyte (1988:129) note that "an instrument that is valid is always reliable; an instrument that is not valid may or may not be reliable; an

instrument that is reliable may or may not be valid; an instrument that is not reliable is never valid."

Reid and Smith (1981:96) and Rubin and Babbie (1988:242) refer to two factors found to threaten internal validity. One encompasses the notion of "maturation", while the other,termed "history", involves specific environmental events. In this study phenemona were recorded at a certain point in time. When respondents were interviewed by both researchers interviews were often as much as a month apart, thus changes may have occurred in this interval. The elderly are susceptible to changes in health status, environment, mood and memory.

The impact of illness on cognitive functioning, tested by means of the MMSE has been observed in a study by Anthony et al (1985:402). That study showed low test-retest coefficients for delirious subjects. It was noted that the low coefficients could have been manifestations of the disorder's fluctuating course and the successful treatment of the medical conditions which caused the delirium. Although few respondents in this study were delirious, nevertheless they had presented themselves at the EU because they were sick.

Illness may have also influenced responses to the Physical Self-Maintenance (PSM) scale. Although reliable, nonetheless the reliability coefficient was only equal to, or less than 0,5 for a number of the items. Williams (1983:637) notes that beyond the age of 65 years, 80% of persons have at least one chronic condition, and many have several. Besdine (1983:651) points out that the first sign of new or recrudescent chronic disease in the elderly is rarely a single specific symptomatic complaint. Rather, active illness presents in the form of difficulties in mobility, cognition, continence and nutrition.

Changing circumstances and fluctuating mood changes may have influenced responses to the PGC Morale scale questions. Jenkins (1975:139) has observed that these factors create special difficulties regarding the reliability and validity of attitudinal and feeling data, particularly when repeat interviews are not held on the same day.

Finally, there is the possibility that memory decline and ill-health may have influenced "frequency of participation in leisure activities" and "frequency of contact with social support" responses which were not reliable. Later (p. 90) it is noted that memory decline describes more and more persons as they get older and that there is a relationship between memory loss and health. It is also noted on p. 124 that leisure, or free-time activity is affected by ill-health and opportunity.

Although overall, the Instrumental Activities of Daily Living (IADL) scale was found to be reliable, nonetheless it is possible that some of the questions may not be valid under certain circumstances. The IADL scale calls for a subjective evaluation of the ability of respondents to undertake activities such as cooking, shopping, food preparation, laundry, and housework. However, these tasks are commonly performed by women. Items that tap social role performance in men (such as fixing things around the house, or "gardening") have not been included and, as Lekan-Routledge (1988:65) suggests, put males at a disadvantage because they may have been excluded from these activities. Additionally, some religions, as does African tribal religion, dictate that the elderly are relieved of certain duties. They are not compelled to work hard because they have already done their share for the survival of the family (Dubazana 1989:37). The possibility thus exists that some of the responses relating to the IADL scale may not, in fact, reflect ability, but rather cultural expectations and practices.

Comprehensive assessment is the quantification of all relevant, functional and psycho-social attributes and deficits. Comprehensive assessment has been shown: to improve diagnosis (either screening or definitive), assist with planning for therapy, and help towards the most appropriate use of services, thus determining optimal placement. It also assists in establishing baseline data for documenting change over time (Rubenstein 1983:758; Miller et al 1990:651). If assessment is to provide a rational basis for therapy and resource planning the instruments used need, as Rubenstein et al (1989:566) point out, to pass basic reliability and validity testing before being used. The findings of this study suggest that instruments currently in use (e.g. the MMSE) may be unreliable and lack validity. There are implications to this finding.

It was noted above that assessment is used to determine optimal placement. However, a local study by Trichard et al (1983:626) found that while referrals to most old-age homes in Cape Town appeared to function smoothly, misplacements do occur, often as a result of either inadequate assessments or discrepancies between the assessments of those involved - medical practitioners, social workers and the matrons of the homes. This would appear to be a universal problem. In Tasmania, Australia, Munro-Ashman (1989:939) notes that a study found that some 20% of nursing home residents did not require the level of care provided, while Rubenstein (1983:758) reports that in the USA at least 10-20% of patients in skilled nursing facilities and 20-40% in intermediate level care facilities receive unecessarily high levels of care.

Inappropriate use of institutions is wasteful of scarce resources; it can create further disability by leading to premature labelling of a patient as irremedially ill; and institutional environments can themselves be hazardous to the aged (Rubenstein 1983:758; Steel et al 1980:641; Jahnigen et al 1982:390). Reliability can be achieved when bias, or measurement error, is minimised or eliminated and validity established by representativeness. There is, therefore, a clear need for ongoing research to achieve this end.

Research takes time. Thus other alternatives need to be examined. In the literature increasing attention is paid to the development and utilisation of geriatric assessment programmes and their usefulness in improving patient outcomes such as diagnostic accuracy, placement location, functional and mental status, medication use, survival, and appropriate use of health-care resources (Fretwell et al, 1990:1073; Munro-Ashman 1989:942; Reed and Gessner 1979:328; Rubenstein 1983:761; Sloane 1980:512; Bayne and Caygill 1977:267; Rubenstein et al 1982:513; Lefton et al 1983:155).

Rubenstein (1983:759) discusses the structural and functional components of geriatric assessment programmes in detail. He notes that (a) virtually all programmes include multidimensional assessment, using one or more sets of measurement instruments to quantify functional, psychologic and social parameters; (b) most use interdisciplinary teams to pool expertise and enthusiasm in working towards common goals; (c) most assessment programmes accept primarily patients with sub-acute or chronic problems not

requiring acute medical or surgical hospitalisation and are coupled with an intervention programme such as rehabilitation, counselling or placement; (d) the functions performed include assessment, treatment, rehabilitation, acute care, the determination of optimal placement, research and education; (e) the core team used by these programmes usually comprise a physician, nurse, and social worker. To this core other specialists may be added who either participate in the basis assessment or are called in as consultants (e.g. psychologist, occupational therapist, physiotherapist, audiologist, dentist, optometrist, dietician).

In short, geriatric assessment progammes are flexible, are geared to differing types of populations and programmes, and their common goal is the improvement not only of the process but also the outcome of geriatric care. When used in conjuction with measurement instruments the problems associated with their lack of reliability and validity will be minimised. These findings thus highlight the importance of the Geriatric Unit at Groote Schuur Hospital which was, as indicated in the introduction, established with these goals in mind.

CHAPTER 4

DEMOGRAPHY AND THE AGEING OF POPULATIONS

Demography is the numerical portrayal of human populations. It is concerned with the mechanisms of population change and with the structure and composition of populations (Grundy 1983:325). Demography is of great importance for those interested in the elderly. It aids understanding, and provides useful information which can be used when planning services. Moreover, the availability of services for the elderly, and the priority accorded them by national governments is likely to be influenced by the demographic structure of the society in which they live.

Information which promotes understanding and can be used in planning of services is one of the aims of this thesis. In the literature review section of this chapter there is consideration of: (i) the changing age structure of populations, (ii) population ageing in South Africa, (iii) population classification and societal patterns, (iv) diversity amongst the South African population, (v) individual ageing, and (vi) the South African aged.

The findings presented and discussed in this chapter include respondents: age, sex, population group, marital status, place of birth and length of stay in the Cape Province.

4.1. REVIEW OF LITERATURE

4.1.1. THE CHANGING AGE STRUCTURE OF POPULATIONS

Changes are taking place in the age structure of world populations in the direction of population ageing. Population ageing may be defined as the increase in the relative number of older persons in a population, or in the increase in the median age of the population (Hauser 1976:64; Clark and Spengler 1980:10). Factors which influence the age structure of a population are fertility and mortality and their interaction. For any

subdivision of a population, net migration is also involved in the ageing of the population (Hauser 1976:64).

According to Hauser (1976:64) the impact of fertility and mortality may be independent or interrelated depending on specific developments. He notes that a decline in the birth rate decreases the number of young people and, therefore, increases the proportion of old. If the birth rate remains low, the age structure tends to become fixed but with a greater proportion of older persons than contained in the original population. If fertility continues a downward course, the proportion of old persons continues to increase.

Hauser (1976:64) also notes that a decrease in the death rate can have differential impacts, depending upon the ages at which such mortality decreases occur. If the decline is the same at all ages, the age structure will remain the same, although expectation of life, the average number of years lived, will increase. Such an increase eventually will result in a larger proportion of older people. If the death rates decline mainly at the younger ages, the proportion of young will immediately increase. However, as expectation of life is increased, survivorship to older ages also occurs and the proportion of older persons increases. On the other hand, if the decline in death rates occurs at the older ages, there will be an immediate increase in the proportion of older persons. The population will remain aged and grow even older if the death rates at older ages continue to go down.

Migration is the net gain or loss of persons entering or leaving the country. Rosset (1964:409) identifies two types of migration: migration outside of a country (emigration, immigration) and internal migration (moves from place to place within a country). The influence of migration is relatively unimportant in comparison with decreases in fertility and mortality. Depending on the age of the migrants and the resident population, a population can either grow younger or older.

4.1.2. THE AGEING OF THE SOUTH AFRICAN POPULATION

In South Africa population ageing is taking place at differing rates amongst the four major population groups (Table 3). Although in 1985 only 14% of the total population

were white, proportionately they have the highest percentage of persons aged 65 and over, and this percentage has been increasing faster than the other population groups. Nevertheless the proportion of aged in the total population is also increasing and by the year 2020 it will be only slightly less than the total white population in 1985 (President's Council 1988:26). From the following examination of the fertility, mortality and migration trends of each of the population groups the reasons for these differences becomes clear.

TABLE 3: EXPECTED AND ACTUAL AGE DISTRIBUTION OF SOUTH AFRICAN POPULATION 1970 TO 2000*

	Age Distribution			
			Actual	Expected
	1970	1980	1985	2000
Population Group	%	%	%	%
Asians				
-14 years	41,3	36,9	33,0	26,9
15-64 years	56,9	60,7	64,2	68,6
65 years +	1,8	2,4	2,8	4,5
Total	100,0	100,0	100,0	100,0
Number (thousands)	630	821	883	
Blacks				
-14 years	43,4	41,8	43,8	42,5
15-64 years	53,0	54,8	53,2	54,3
65 years +	3,6	3,7	3,0	3,1
Total	100,0	100,0	100,0	100,0
Number (thousands)	15 340	20 700		27 146
Coloureds				
-14 years	46,2	39,0	35,4	31,4
15-64 years	50,7	57,7	61,1	64,6
65 years +	3,1	3,3	3,5	4,0
Total	100,0	100,0	100,0	100,0
Number (thousands)	2 051	2 613		2 951
Whites				
-14 years	31,3	27,5	24,9	20,8
15-64 years	62,1	64,4	66,7	70,0
65 years +	6,6	8,1	8,4	9,6
Total	100,0	100,0	100,0	100,0
Number (thousands)	3 773	4 528		4 582

* Including TBVC States

Source: President's Council (1988: 7, 26, 32); South Africa (Republic) (1989: 6, 13, 20)

(i) Patterns of Mortality

One of the best measures in determining changes in the mortality pattern is to be found in the trends in the average life expectancy at birth. This is defined as "the average number of years a person may expect to live as at the time of calculation" (President's Council 1983:34). From Table 4 it is seen that there have been sharp increases in the average life expectancy over the past few decades amongst all population groups. It is also seen that although the life expectancy of Asians, blacks, and coloureds is rising it is still low in comparison to that of whites.

TABLE 4: EXPECTATION OF LIFE AT BIRTH IN YEARS FROM 1970

Year	Asian		Black		Coloured		White	
	Male	Female	Male	Female	Male	Female	Male	Female
1970-1975	60,3	64,9	52,0	59,4	50,5	57,2	65,1	73,0
1975-1980	62,0	67,5	55,0	60,0	56,0	61,0	66,8	73,8
1995-2000	64,6	71,1	60,6	67,3	55,8	64,9	67,8	76,1

Source: Sadie (1978:18)

Then the life expectancy of a population is low, any increase can usually be ascribed to a falling infant mortality rate. This is because when the mortality rate decreases, the population will not necessarily become older, but more children will survive the early, "at risk" years and their chances of reaching old age improve (Prinsloo 1990:8).

The infant mortality rate is ratio of the number of deaths among children under the age of one year to the number of live births in a particular year. In South Africa the estimated infant mortality figure per thousand births for coloureds (50,53) and, especially, for blacks (60,63), are still high in comparison with those of Asians (16,60) and whites (11,54). Sharp declines have occurred in respect of the first two groups, particularly among blacks in urban areas. With increased urbanisation the general standard of health, economic position and lifestyle is expected to improve and further declines can be expected. However, considerable problems are still seen to exist in respect of rural areas,

where infant mortality may be as high as double the average figure for blacks for the country as a whole (President's Council 1988:10).

(ii) Fertility Rates

The trends from 1936-1985 show that the fertility of whites was already low during the 1930s and in general has continued to decline. Since 1987 it has been below the replacement level of 2,1 children. In the case of the Asians there has been a constant decline from 6 to 2,5 children in 1985. Among coloureds the decline occurred much later. In 1985 a figure of 2,77 children was recorded. The estimated total fertility rates for blacks have been higher than those for the other groups from the outset. But although there has been a clear, although slight, decline since 1960, fertility still remains very high: 5,6 children in 1985 (President's Council 1988:11).

(iii) Migration Trends

In regard to whites, from 1962, and especially between 1973 - 1977, there was a distinct upward trend in terms of the net migration gain. However, after the unrest in Soweto in 1977 this trend changed, and in fact, during 1986 there was a net migration loss. Although this trend does not appear to be continuing, one survey conducted in August 1987 found that more than 160 000 urban white South African adults saw themselves emigrating to other countries within the next five years (President's Council 1988:13; S A Institute of Race Relations 1989:156).

Despite this downward trend, immigrants have provided a significant boost to the growth of the white population. Research shows that the net migration gain contributed 35% to the overall white population growth during the period 1961/1971 and 42% from 1974 to 1976 (President's Council 1988:13). The impact of immigration has been to bring the average age down. Gouws (1985:98) explains "In general those who immigrate are young unmarried people, unmarried adults, or young married adults with their families."

The position regarding the other population groups is less clear. Until 1986 South African immigration laws generally permitted only whites as permanent immigrants. In that year these laws were amended to delete all references to race. However, records suggest that at any one time more than 300,000 blacks from neighbouring states are

legally employed in South Africa on contracts lasting from six months to one year. In addition, some 1,2 million (possibly more) illegal black immigrants - refugees from depressed labour markets, civil strife and hunger in the subcontinent - are working and living in South Africa on any given day of the year (Bureau for Information 1989:85). As noted above the impact of these contract workers and "illegal" immigrants will bring the average age of the black population down.

(iv) The Impact of AIDS

The projective demographic forecasts discussed above do not take into account the fact that major changes may occur as a result of famine or epidemic mortality. Since 1982, Acquired Immune Deficiency Syndrome (AIDS) has become pandemic in Africa and other countries. In South Africa 37 cases of AIDS were diagnosed in 1987. By mid-December 1988 this rose to 191 cases, 113 persons having died (Prinsloo 1990:13; S A Institute of Race Relations 1989:11).

Schall and Padayachee (1990:503) note that several press reports have predicted a halt of population growth in South Africa by 1995, and that by the year 2000, 50-70% of the black population will be either infected with the human immunodeficiency virus (HIV) or dying of AIDS. Schall (1990:510) is of the opinion that such forecasts are usually produced by simplistic extrapolation of the initial rapid spread of the epidemic to the whole population, 10 and more years ahead, without taking into account factors such as natural mortality, fertility, heterogeneity of the population and a decreasing pool of susceptible subjects. He uses a somewhat more sophisticated methodology which dismissses these forecasts as unrealistic and which predict that, at worst, the demographic impact of AIDS will be such that population growth among the black population is halted, may decrease slightly before remaining constant. But before this occures the size of the black population will have grown substantially from 1990 levels.

Even if there are no completely reliable or accurate predictions, as Prinsloo (1990:13) points out, "This problem will ...affect the entire population in many ways, both economically and psychosocially. Elderly family members, mostly women, will be obliged to provide material support for children after the disease has eliminated their parents."

4.1.3. POPULATION CLASSIFICATION AND SOCIETAL PATTERNS

The United Nations has defined populations as "aged", "mature," and "young" on the basis of their proportions of old people. The "aged" nations are those with over 7 per cent of the populations 65 and over, the "mature" between 4 and 7 per cent, and the "young" under 4 per cent (Hauser 1976:76). Classifying populations in this way is useful in that it serves as an indicator of many societal patterns. Demographers have found those countries in the world with young populations are characterised by econonomic underdevelopment, are often agricultural, and have relatively high birth and death rates combined with comparatively short life expectancies. Nations with mature age structures include those undergoing rapid industrial transition and those experiencing high birth rates, declining death rates and gradually increasing longevity (Hendricks and Hendricks 1986:58).

4.1.4. DIVERSITY AMONGST THE SOUTH AFRICAN POPULATION GROUPS

Although the total South African population is young, considerable differences exist between the different population groups. In addition the position is changing; by the year 2020 only the black population will be a "young" population (Table 3).

Societal patterns in South Africa in the different population groups, and in the population as a whole, appear to correspond to classification of populations as young, mature or aged.

Primarily a developing, or third world population, in 1985 just over 60% of blacks still lived in traditional rural areas, sustained by an agriculturally based subsistence econonomy. The remainder, who reside in urban areas, have been exposed to the process of modernisation and are more westernised than their rural counterparts. They are more attuned to the market economy and the value systems associated with western urban industrialised societies. However, the situation is changing rapidly. Since 1986 when influx control was abolished, urbanisation has accelerated and increasing numbers are being exposed to the modernisation process (du Toit 1989:3; Cilliers 1976:1111; Bureau for Information 1989:60,91).

In contrast, by 1985 the majority of whites (90%), coloureds (79%) and Asians (80%) lived in urban areas. Over 85% of the coloured population group live in the Cape Province, mainly in the Cape Peninsula and neighbouring districts. Until a few decades ago, fishing, agriculture and the service industries were the main avenues of employment for the coloured community. Today most, except those on farms and rural settlements, have been integrated into the free-enterprise industrial economy. Many have moved into better paid artisan jobs, especially in manufacturing, the clothing and textile industries, and construction. On the whole the coloured people reflect the demographic characteristics of an agricultural and industrial working-class in a modern western society. The Asian population group shows similarities to that of the coloured population group. By 1985 just over 93% of Asians were urbanised, with the majority (80%) concentrated in Natal. Commercial and industrial development has resulted in their rapid urbanisation. The white population group, however, manifest most of the characteristics of western industrialised societies. (du Toit 1989:3; Cilliers 1976:1111; Bureau for Information 1989:75-6,89,92).

4.1.5. INDIVIDUAL AGEING

Population ageing is a characteristic of population groups and is influenced by changes in mortality, migration, and fertility. In contrast, individual ageing, measured for population aggregates by a rise in life expectancy or survival rates, is a characteristic of individuals summarised for populations. Individual ageing is determined wholly by death rates at each age of life (Siegel and Taeuber 1983:79).

The elderly population is a demographically heterogeneous group that includes a wide range of ages and sharp variations in the characteristics of the members of the component ages. In addition, there is rapid turnover in this population, mortality rates being relatively high: a younger group enters the "elderly" age range, and each age group among the elderly moves up to occupy a new and higher age category as the former occupants age or die. These new members may have quite different characteristics from those they replace. Variations also occur in the size of age (birth) cohorts, survival rates, and the share of immigrants in each cohort. As a result, substantial shifts take place in the characteristics of each constituent age group and of the elderly population as a whole.

In fact, the shifts in numbers, age distribution, sex composition, health status, marital status, and economic characteristics may vary considerably (Siegel and Taeuber 1983:79-80).

Even though shifts may occur nonetheless Cowgill and Holmes (1972:321) have identified two demographic principles which apply to all older populations. One is that in an older population, females outnumber males, and the other, that widows comprise a high proportion of an older population. Each of these is examined further below.

(i) Widowhood

According to Craig (1983:471) widowhood is the common pattern for many married women by age 65 primarily because women tend to marry men older than themselves, and men tend not to live as long as women. Widowers also tend to re-marry more than do widows. In western society nearly twice as many men as women remarry within five years of widowhood. Moreover, remarriage is more likely to occur regardless of the age when the wife dies (Bischof 1976:268).

(ii) Sex Differential

Controversy surrounds the reasons for the longer life expectancy of women in all human populations in which the risk of childbirth has been reduced to a minimal level. Writers such as Jarvik and Matsuyama (1986:69) and Hazzard (1986:455) point to the impact of the environmental factors on longevity. They suggest that modern women lead a more protected life. Unlike men, who have to work under stress in highly competitive civilisations, modern women have been released from the burden of housekeeping duties by an increasing variety of mechanical devices. In an attempt to validate this hypothesis Madigan and Vance (1957:193) studied the life expectancy of brothers and sisters in American Catholic teaching orders. They found that despite negligible sex differences in occupational hazards and relatively sheltered lives for both men and women there was a 10% difference approximating the life-span differential in the general population.

Other factors noted by Hazzard (1986:455) include the fact that traditionally men make less use of health care facilities, and that smoking cigarettes is predominantly a male habit. Again there is little objective evidence to substantiate this claim despite the fact

that more women are entering the labour market thus experiencing stress, that use of health care facilities is remarkably less among employed than nonemployed women, and that more women, particularly younger women, are smoking cigarettes. In 1985 lung cancer became the commonest malignancy among women in the United States and is presumed to reflect their equal susceptibility to the adverse sequelae of cigarette smoking.

Siegel and Taeuber (1986:92) suggest that there are biological differences. They note that foetal and infant mortality is higher among males and that reproduction protects women with respect to clotting factors, hormonal balance, cholesterol metabolism and elasticity of the vascular system.

Jarvik and Matsuyama (1986:69) point to other biological differences. They note that in sex-linked recessive conditions with random mating, the effects of deleterious genes located on one X chromosome are neutralised by the action of normal genes on the second X chromosome, so that in heamophilia and other sex-lined conditions, it is only the male who manifests the abnormal condition. This evidence, they suggest, points to links between longevity and the presence of the second X chromosome in women. Whatever the reason for the sex differential, longevity appears to lie not in old age once achieved but before old age. Siegel and Taeuber (1986:92) comment that "the sex differential in mortality rates is far greater in young adulthood and middle age than in old age and especially in the old old; it narrows progressively beyond middle age."

4.1.6. THE SOUTH AFRICAN AGED

The principle relating to the sex differential is evidenced in all the South African population groups (Table 5). In addition, although the reasons for the sex differential in longevity are not clear, by the year 2000 not only will women still outnumber men, the actual proportion of women expected to live longer will increase. The evidence also suggests that dramatic increases can be expected in the number of elderly who survive to the older ages. As debilitating chronic illness and functional impairment is likely to increase with increasing age the likelihood that even more pressure will be placed on hospitals unless alternative health care services are provided. But, while these trends highlight the need for studies of this nature it is clear that their value is limited in that

they can only determine the preferences, needs and capabilities of a particular population at a specific point in time. This is the aim of this study thus attention now turns to the particular demographic characteristics of the elderly population admitted to the Emergency Unit of Groote Schuur Hospital.

TABLE 5: ACTUAL AND EXPECTED NUMBERS OF SOUTH AFRICANS 65 YEARS AND OLDER, 1980 - 2000

Population Group	Age/Sex	Actual 1985 N	Expected 2000 N	Increase %
Asians	65-74	15 400	34 100	121
	75 +	4 400	11 100	155
		19 800	45 200	129
	Male	9 700	19 400	100
	Female	10 100	25 900	156
Blacks	65-74	424 000	562 000	103
	75+	209 000	376 000	80
		633 000	1 238 000	96
	Male	259 000	502 000	94
	Female	374 000	736 000	97
Coloureds	65-74	54 900	103 000	87
	75+	24 100	42 000	75
		79 000	145 000	84
	Male	33 500	54 600	63
	Female	45 500	90 600	99
Whites	65-74	242 000	299 000	24
	75+	104 000	176 000	69
		346 000	475 000	37
	Male	141 000	185 000	31
	Female	205 000	291 000	42

Source: President's Council (1988:28)

4.2. PRESENTATION OF FINDINGS

4.2.1. AGE

Compared to all other age groups, proportionately more (29%) of those respondents who were admitted to the Emergency Unit during the study period were in the 65 - 69 age group (Table 6).

TABLE 6: AGE GROUPS

Age groups (years)	N	%
65 - 69	105	29,01
70 - 74	91	25,14
75 - 79	91	25,14
80 - 84	43	11,88
85+	32	8,84
Total	362	100,00

4.2.2. SEX

Of the 362 respondents who were admitted to the EU during the fifty-two week period, 1 March 1989 - 27 February 1990, 156 (43%) were male and 206 (57%) female.

4.2.3. POPULATION GROUP

The majority of those patients aged 65 and over who were admitted to the EU during the study period were registered in terms of the Population Registration Act 30 of 1950 as coloured (Table 7).

TABLE 7: POPULATION GROUP

Population Group	N	%
Asian	9	2,49
Coloured	228	62,98
Black	63	17,40
White	62	17,13
Total	362	100,00

(i) Population Group and Age

Amongst the coloured/Asian population group at age 65-69 there were more males than females but from 70 years upwards there were more females. This difference was significant (Table 8).

TABLE 8: POPULATION GROUP AND AGE

	Age											
	65 - 69		70 - 74		75 - 79		80 - 84		85 +		Total	
Population Group	N	%	N	%	N	%	N	%	N	%	N	%
Black	19	5.25	17	4.70	19	5.25	6	1.66	2	0.55	63	17.40
Coloured/ Asian	70	19.34	58	16.02	57	15.75	29	8.01	23	6.35	237	65.47
White	16	4.42	16	4.42	15	4.14	8	2.21	7	1.93	62	17.13
Total	105	29.01	91	25.14	91	25.14	43	11.88	32	8.83	362	100.00

P = 0.814

(ii) Population Group and Sex

Although proportionately there were less males (43%) in the total sample, there were more males amongst whites (56%) and blacks (52%). The figure for coloureds/Asians was 37%. These differences were significant (Table 9).

TABLE 9: POPULATION GROUP AND SEX

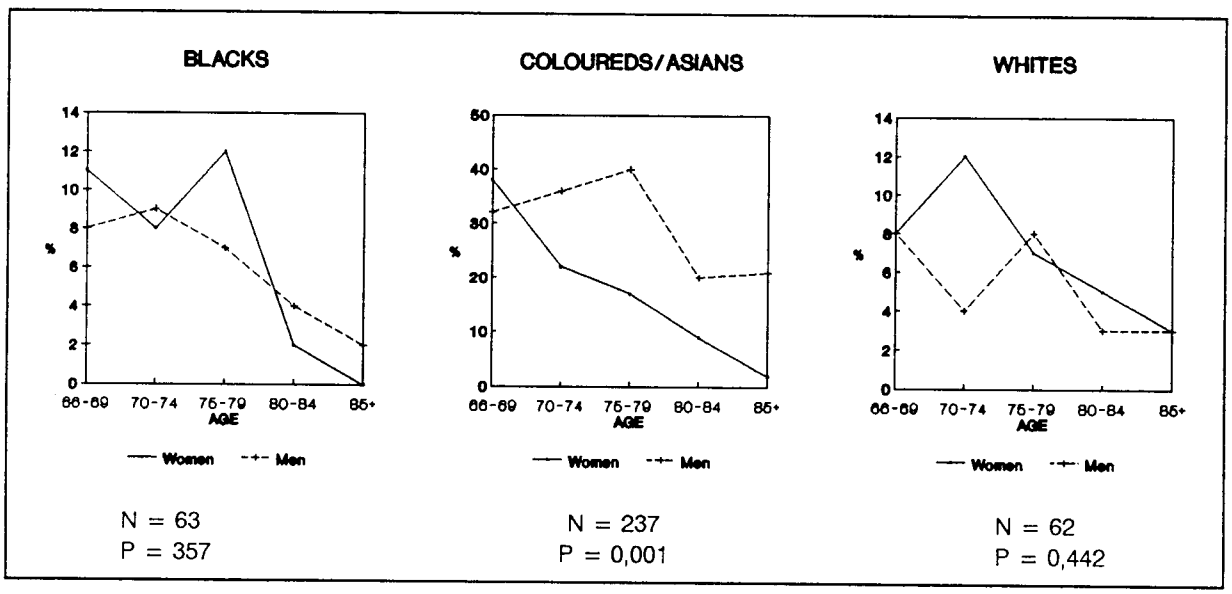
Population Group	Sex					
	Male		Female		Total	
	N	%	N	%	N	%
Black	33	9,11	30	8,29	63	17,40
Coloured/Asian	88	24,31	149	41,16	237	65,47
White	35	9,67	27	7,46	62	17,13
Total	156	43,09	206	56,91	362	100,00

P = 0,006

(iii) Population Group, Age Groups and Sex

No significant difference was found between the different age groups of blacks and whites. However, in general black elderly males were found to be slightly younger. In addition the proportions between coloured/Asian and white elderly aged 70-85 and over, show similarities as do the proportions between blacks and coloureds/Asians in the 65-69 age group (Figure 2).

FIGURE 2: POPULATION GROUP, AGE GROUPS AND SEX



4.2.4. Marital Status

Most (62%) of the 344 respondents had no partner (Table 10).

TABLE 10: MARITAL STATUS

Marital Status	N	%
Married (traditional or legal)	127	36,91
Common law spouse	1	0,30
Widowed	190	55,23
Divorced	9	2,61
Separated	5	1,45
Single	12	3,50
Total	344	100,00

Frequency Missing = 18

(i) Marital Status and Sex

Proportionately more males (61%) than females (19%) were married or had a common-law spouse. These differences were significant (Table 11).

TABLE 11: MARITAL STATUS AND SEX

	Sex					
	Male		Female		Total	
Marital status	N	%	N	%	N	%
Married/Common law spouse	91	26.45	37	10.76	128	37.21
Widowed/divorced/separated/single	58	16.86	158	45.93	216	62.79
Total	149	43.31	195	56.69	344	100.00

Frequency Missing = 18
P = 0.0001

4.2.5. PLACE OF BIRTH

Out of the 311 respondents, most (90%) were born in South Africa or the Homelands (Table 12).

TABLE 12: PLACE OF BIRTH

Place	N	%
South Africa/Homelands	281	90,36
British Isles	6	1,93
Europe	4	1,29
Other	10	3,21
Not known/refused to answer	10	3,21
Total	311	100,00

Frequency Missing = 51

(i) Place of Birth by Population Group

All the black elderly, 96% coloureds/Asians, but only 68% of whites were born in South Africa or the Homelands (Table 13).

TABLE 13: PLACE OF BIRTH BY POPULATION GROUP

	Place of Birth											
	South Africa		Homelands		British Isles		Europe		Other		Total	
Population Group	N	%	N	%	N	%	N	%	N	%	N	%
Black	7	2.33	50	16.61	-	-	-	-	-	-	57	18.94
Coloured/ Asian	196	65.12	-	-	-	-	-	-	7	2.33	203	67.44
White	28	9.30	-	-	6	1.99	4	1.33	3	1.00	41	13.62
Total	231	76.74	50	16.61	6	1.99	4	1.33	10	3.32	301	100.00

Frequency Missing = 61

4.2.6. LENGTH OF STAY IN THE WESTERN CAPE

Most (91%) of the 311 respondents had been living in the Western Cape for over ten years (Table 14).

TABLE 14: LENGTH OF STAY IN WESTERN CAPE

Length of Stay (years)	N	%
Up to 1 year	18	5,79
1 - 10 years	3	0,96
Over 10 years	282	90,68
Not known/Refused	8	2,57
Total	311	100,00

Frequency Missing = 51

(i) Length of Stay by Population Group

Small differences were noted between the population groups. More coloureds/Asians (99%) than whites (86%) and blacks (77%) had lived in the Western Cape for over ten years (Table 15).

Of the 18 respondents who had been living in the Western Cape for less than a year, 16 stated they were not permanent: eleven blacks and two coloureds/Asians stated they had come to Cape Town for medical treatment, while two whites and one black were on holiday.

TABLE 15: LENGTH OF STAY IN WESTERN CAPE BY POPULATION GROUP

	Length of Stay							
	Up to 1 year		1 - 10 years		Over 10 years		Total	
Population Group	N	%	N	%	N	%	N	%
Black	12	3.96	1	0.33	44	14.52	57	18.81
Coloured/Asian	2	0.66	-	-	201	66.34	203	67.00
White	4	1.32	2	0.66	37	12.21	43	14.19
Total	18	5.94	3	0.99	282	93.07	303	100.00

Frequency Missing = 59

4.3. DISCUSSION OF FINDINGS

The findings of this study show that just over half the population of elderly admitted to the EU were female (57%), aged 74 or less (54%), had no partner (59%), that somewhat more were coloured (63%) and were born in South Africa (74%), and finally, that most (91%) had lived in the Western Cape for ten years or more.

Cowgill (1972:3) suggests that there are some demographic principles which appear to apply to all societies. One, that the aged always constitute a minority within the total population, applies not only to the total South African population but also to the findings of this study. There are, however, differences between the population of this study and that of the total South African population. In 1985 the elderly comprised approximately four per cent of the total population of South Africa while for half the study period (September 1989 - February 1990) 22% of the total ante-room population were elderly.

This study supports previous conclusions that the likelihood of hospital admission increases with advancing age (Burger 1962:717; Fairbairn 1963:10; Glajchen 1969:302; Tibbit 1979:646; Schuurmans-Stekhoven et al 1991: in press). Further (p. 197) it is noted that a feature of ageing is the gradual lessening of resistance to infection. Illness amongst the aged is moreover essentially chronic, requiring long-term medical management. These studies confirm the importance of ongoing research of this nature.

In this study it is shown that, compared to blacks and whites, proportionately more coloureds were admitted to the EU, were born in South Africa, and had lived in the Western Cape for ten years or longer. These findings are not surprising. GSH serves the poorer population and, although historically, the area around GSH was populated by coloureds and whites, the poorer coloureds predominate. This position is, however, likely to change. Now that laws preventing their movement to greater Cape Town have been abolished there is an influx of blacks who are, by and large, the poorest sector of the South African population. As a result of the above mentioned laws those blacks who were allowed into the Western Cape were considered temporary residents who would return to the Homelands once their job was finished. They were, therefore,

predominantly male. Although this may account for the finding that there were more black men than women in the sample, there were also more white men than women in the sample. Other explanations must thus be sought.

A study of patients aged 85 over admitted to three general hospitals in Canada showed more males. Similar findings were reflected in a study of attendance at an Accident and Emergency Department of a hospital in England by Gupta et al (1985:24). The latter researchers suggested that the majority of females were brought in for relatively less serious reasons because they were living alone and their relatives, neighbours or the home help felt worried about them. Most males, on the other hand, are supported by their spouses and so are brought in when genuinely ill. This explanation has merit. In this study the population was drawn from the Ante-room of the EU, which tends to admit more serious problems and far more men (61%) than women (19%) were married.

Almost as a contradiction of the above is the finding of perceptions of health status of persons aged 60 and over in developing countries by Andrews (1988:23). In that study more women than men described themselves as healthy. Later on (p. 193) it is shown that health service utilisation is inextricably linked to perceptions of health. Since men are more likely to feel ill it is logical to suggest that they are more likely to attend hospital to seek help to overcome their "perceived" illness.

Two universal principles are discussed on p. 51. It is noted that one, that older populations have more females than males, does not apply to the white and black individual population groups, but that this changes when the sample population is treated as a whole. However, the second universal principle, that widows comprise a higher proportion of an older population, is a finding of this study.

Finally, a certain amount of variation is noted between the age range of the population as a whole and when it is separated into the different population groups. This is to be expected in view of the different life expectancies of the different population groups.

This study is based on the premise that services must be planned for a particular population. The findings presented in this chapter confirm that this is the case. The

sample population show some similarities, but also some differences to the total South African population. But while these findings can be used in the short term, factors such as rapid urbanisation and the AIDs epidemic are likely to influence the future age structure of the total South African population and the particular population who attend Groote Schuur Hospital. Ongoing research is thus required to ensure that any service offered continues to be appropriate to the needs of the particular population at any moment in time.

CHAPTER 5

AGE-RELATED PHYSIOLOGICAL CHANGES AND THE ACTIVITIES OF DAILY LIFE

An understanding of the ageing process is integral to competent geriatric practice. An understanding of the way the ageing process impacts on a particular population is also essential if appropriate and cost-effective services are to be developed. In this, and the following five chapters, an attempt is made to understand the ageing process in general, and analyse the way it impacts on a particular elderly population and the social context in which they live.

In this chapter the concern is with the impact of ageing on the biological component of human life. In the literature review there is an examination of the term "ageing" as well as some age-related pysiological changes.

Comprehensive assessment of the age-related physiological changes of the body is beyond the scope of this study. However, the physiological changes which occur ultimately lead to a progressive generalised impairment of function. In this study, therefore, the findings presented and discussed focus on the functional abilities of the sample population, and in this chapter the activities of daily life, namely, physical self-maintenance activities, and instrumental activities of daily life. As indicated in the introduction a general non-specific approach such as this is an integral component of geriatric medicine and is a useful way to predict health service consumption.

5.1. LITERATURE REVIEW

5.1.1. AGEING CONCEPTUALISED

As individuals grow age they undergo a series of changes. Hair turns grey, or falls out; vision, hearing and memory worsen; mobility declines. Ageing is generally viewed as "an involuntary and irreversible process that operates cumulatively with the passage of time and is revealed in different aspects of function" (Albert 1988:4).

Some consider that the ageing process begins at conception and ceases at death. To others ageing refers to changes in later life following the reproductive period (Bischof 1976:75; Hendricks and Hendricks 1986:29). Ageing has also been described as "a process that begins or accelerates at maturity and results in an increasing number and/or range of deviations from the ideal state" (Gilchrest and Rowe 1982:15).

Changes proceed at different rates for different individuals. Some 40 year olds are bald; some 70 year olds have excellent vision. **Chronological age**, is often used to refer to the number of years since the birth of the individual, and **functional age**, individual levels of functioning to ideal typical levels of functioning for particular age cohorts (Costa and McCrae 1985:30; Hendricks and Hendricks 1986:30).

Age-related change appears to be both **linear** and **non-linear**. Many physiological functions peak when individuals are in their late 20s or early 30s and decline in a gradual and linear manner into old age. Functions that change in a nonlinear manner may show change either early or late in the life cycle. Other functions that show either early change and late stability or early stability and late change. Thus, for some functions there are periods in which age-related changes are substantial and are either preceded or followed by plateaus where no measurable change occurs (Albert 1988:6).

Ageing may be described as "normal" or "pathological". **Normal or primary ageing** refers to the biological processes which are time-related and not a function of stress, trauma, or disease. **Secondary or pathological ageing** refers to defects and disabilities caused

primarily by hostile factors in the environment, particularly trauma and disease. Secondary ageing processes are not attributable to maturational effects, although they are correlated with chronological age since the prevalence of chronic diseases increases with age (Busse and Blazer 1980:4; Robertson-Tchabo and Arenberg 1985:129). Adams (1981:2) cautions, however, that differentiation of "normal" from "pathological" is often artificial, although it is useful when applied to distinguish preventable, or reversible, disease process (which may hasten decline in old age) from irreversible age changes which have to be accepted. The biological process of ageing is usually associated with a decline of efficiency and functioning that eventually results in death.

However, the ageing process cannot be considered, exclusively, a process of decline. While individuals experience a greater or lesser degree of decline in their physical and mental abilities as they age, the ageing process may also be one of attaining greater maturity: the development of coping skills and increased insight into the human condition (Busse and Pfeiffer 1977:8; Hendricks and Hendricks 1986:29). In some cultures the aged are the most powerful, the most engaged, and the most respected members of society (Palmore 1980:222). This would suggest that ageing is not just a biological process. It is a **biopsychosocial process**. Persons not only grow older they also experience the process of ageing (Robertson-Tchabo and Arenberg 1985:129). The rate at which ageing proceeds is also influenced by ecological factors and the way individuals react to them Bourliere (1973:72). The noted biologist and gerontologist, Alex Comfort estimates that only 25% of age-related changes are accounted for by physical ageing. Seventy-five percent is accounted for by "sociogenic ageing", the role which folk-lore, prejudices, and misconceptions about age still impose on the old (Palmore 1980:222).

Ageing can thus be conceptualised as a complex, dynamic process encompassing interrelated physiological, psychological, cultural and social changes, which leads to a progressive generalised impairment of function and the increasing probability of death.

5.1.2. AGE-RELATED PHYSIOLOGICAL CHANGES

Age-related changes occur in all three major components of the system. In the biological component, the changes gradually deplete the phsyiological reserves of most major organ

systems resulting in a decline of their efficiency or functioning. In this section the concern is the biological component of the system. There is an examination of some of the most obvious age-related physiological changes, their possible interrelationship with psycho-social factors, and their impact on the efficiency and functioning of the body as a whole.

(i) The Skin and Appendages

The skin is an organ of the body and accounts for 16% of body weight. It has many functions. It covers the body and protects the deeper tissues from drying and injury. It protects from invasion by infectious organisms. It is important for temperature regulation. When the body cools, blood flow to the skin is reduced to minimise the loss of heat. When the body warms, circulation to the skin increases to effect heat loss. Production of sweat which is central to maintenance of temperature control, declines with age. The keratinous layer composed largely of dead cells form an important protective layer particularly on the hands and feet. Specialised cells, melanocytes, produce melanin to absorb ultraviolet light thereby forming an important screen against cancer producing light rays. Finally, the skin contains end organs of many of the sensory nerve fibres, including tactile and pressure corpuscles to maintain contact with the environment (Horrobin 1973:118; Miller et al 1977:76).

Sebaceous secretions which have an important antimicrobiol function decline with age. This change, together with the thinning which occurs allows easier access of micro-organisms, making the elderly more prone to skin, wound and general infections (Wicht 1990:20).

The **blood vessels** in the skin become more fragile with age, bleeding occurs with lesser trauma and healing is more prolonged. The appearance of small angiomas is common and senile warts can generally be found on the trunk, face and scalp of the elderly person.

The gross appearance of aged skin is mainly due to loss of elasticity in the dermis, associated with increased collagen and decreased subcutaneous fat. However, the changes appear earlier and are more marked in exposed skin due to the effect of ultraviolet light on the collagen and elastin of the skin. Thus, unexposed skin in the elderly may not differ much from that of younger adults. This has led to the suggestion the changes are the

result of the cumulative effects of genotype, environment and disease at other sites (Hanna and MacMillan 1973:593).

Nails and hair are appendages of the skin. Ageing results in a reduced rate of nail growth. Senile **nails** appear dull, opaque and sometimes yellowish, greenish or grey, with associated longitudinal ridging. Most of these changes are due to diminished vascular supply to the nailbed. Thickening can also occur as a result of nutritional disturbances, repeated trauma, inflammation and local inflection (Wicht 1990:20; Matteson 1988:156).

Hair is found all over the body except for the palms of the hands, soles of the feet and distal phalanges of the fingers and toes (Miller et al 1977:89). Hair colour tends to darken with age until greying occurs. By age fifty, irrespective of sex and hair colour, half the population will have at least 50% grey or white body hair (Wicht 1990:21; Hanna and MacMillan 1973:593; Saxe 1990:278).

Loss of hair on the frontal and crown parts of the head is characteristic of increasing age, and usually more visible in men. Recession at the temples is often evident by the age of twenty in males and is the first manifestation of genetically determined male pattern baldness. The interplay of endocrinological, chronological and phsyiological factors also contribute to these changes (Wicht 1990:21). The above reasons also contribute to progressive loss of body, axillary and pubic hair from the fourth decade. The loss is in the reverse order to which it developed. Eyebrow, ear and nasal hair may become coarser and longer in older men, while unopposed adrenal androgens can stimulate growth of facial hair in women up to the age of 55 (Orentreich and Orentreich 1985:354; Wicht 1990:20; Hanna and MacMillan 1973:593).

(ii) Locomotion and Support

Movement in mammals requires two types of structure, which are co-ordinated by the nervous system. The first is a firm skeleton to support the soft tissues and to prevent their collapse under the influence of gravity. But, as the skeleton can not be absolutely rigid throughout, and bones must be able to move in relation to one another, they are linked by joints. The second is a system of muscles to effect movement of the bony skeleton (Horrobin 1973:2; Ellis and Nowlis 1985:439).

With ageing the individual adopts a flexed posture and becomes progressively shorter and smaller, particularly in the eighth and ninth decades. The pronounced stoop or slump in posture occurs because of changes to the **skeleton**: the head and neck tend to be held forward, while the dorsal spine becomes gently kyphotic, the upper limbs bent at the elbows and wrists, and the hips and knees slightly flexed. The elderly are thus characterised by shortened trunks and comparative long extremities (Wicht 1990:20; Grob 1989:296; Teravainen and Calne 1983:86).

The changes of posture and stature are the result of changes in the vertebral column and in the intervertebral discs, to ankylosis of ligaments and joints, to shrinkage and sclerosis of tendons and muscles, and to degenerative changes in the central nervous system. There is also a loss of **bone mass**, which is more pronounced in women. Because of this loss, bones become weaker and with injury, more prone to fracture (Wicht 1990:20; Grob 1989:296; Teravainen and Calne 1983:86).

Postural and statural changes are not just biologically determined. Socio-economic factors influence both height attained and the rate of decline with ageing, as well as bone changes. Studies have found that persons who are better off, live in homes with better facilities, (construction materials, water, sanitation, number of rooms) tend to be taller, shrink more slowly and end up taller in old age (Rossman 1980:126,131; Himes and Mueller 1977:173).

Muscles are composed of nonmitotic cells, which means they are irreplaceable. They achieve their optimum size and strength when the individual reaches full maturity in the middle 20s. Thereafter there is a decline in muscle mass, and, therefore, in strength. It is not, as is sometimes thought, solely a disuse atrophy. Smaller upper extremity muscles are noted in older working longshoremen, and shrinkage occurs in the eye and laryngeal muscles, muscles used continually into old age. Nevertheless changes of ageing are significantly less in muscles in which activity is maintained. Involutional changes result in disappearance of some muscle fibers with shrinkage and fragmentation of others which are largely replaced by an increasing quantity of adipose tissue, which may more than compensate for loss of bulk and create bulges in unwanted places. Despite loss of muscle

substance, however, muscle contours become more prominent and muscle bundles and tendinous points of attachment more distinct (Wicht 1990:23).

The reason for muscle cell degeneration and muscle mass decline with ageing remains a mystery. However the facts of involution are to be kept in mind in the interpretation of similar regression of other important tissues such as that which occurs in the brain (Wicht 1990:21; Rossman 1980:128; Cape 1978:18).

The ageing process leads to a general degenerative change in the peri-articular and soft tissues and cartilage of the **joints.** Additionally, superficial erosions, cyst formation and calcificaction are likely to occur, while biochemical changes lead to mucoid degeneration. The end result is a loss of elasticity and resilience in joints, leading to stiffness which reduces movement and the corrective responses necessary for balance. A predisposition to aches and pains and a reduction in confidence and reliability of activity is a further side effect. The loss of agility and increasing clumsiness contributes to an increasing number of accidents and falls amongst the elderly who may find it difficult to get out of a chair (Adams 1981:15; Cape 1978:79).

Finally, the process of ageing leads to neuronal loss resulting in changes in the **nervous system.** These changes, when combined with muscular weakness and joint stiffness, result in a reduction in range and speed of movement. There is less precision in fine movements and in rapid alternating movements; irregular timing of action, loss of smooth flow of one form of action into another; and slowing down to avoid outcome of one action before planning the next. Changes to the central nervous system also results in impairment of the mechanisms controlling co-ordination, posture, anti-gravity support, balance and moving equipoise. As a result the gestures of older people are often slow and their walking pattern may become wide-based and shuffling (Adams 1981:14; Wicht 1990:25; Calne 1985:234).

While the ageing process has an impact on all aspects of movement, these deficits are relatively mild, symmetrical, and only slowly progressive. Moreover regular exercise can forestall or blunt the process (Cape 1978:79; Wicht 1990:25; Calne 1985:235; Craig 1983:19).

(iii) The Sense Organs

The function of the sense organs is to supply the central nervous system with information about both the external and internal environments. External sensations include sight, hearing, taste, smell, touch, pressure and temperature. The more obvious internal sensations include pain, position sense, vestibular sense, hunger thirst, and nausea.

Sensory abilities change throughout life. Typically these changes are so slow they are not noticed until they interfere with everyday life. The perception of simple stimuli changes only mildly during the adult years, but may show steep declines after about the seventh or eighth decade. However, changes in the ability to undertake the more complex perceptual problems of everyday life - speech, reading, or operating a machine can be detected even during the early years of the adult life span (Marsh 1980:147).

Vision: presbyopia, or farsightedness, is perhaps the best-known age-related change. Other functional changes include a higher threshold for light, the delay in accommodation to darkness, decrease in fields of vision, and a loss in colour discrimination. This leads to problems for older adults who must drive at night and to difficulty with seeing objects approaching at an angle (Wicht 1990:26; Schiamberg and Smith 1982:620).

Hearing is impaired with advancing age, both as the result of physiological effects of ageing itself, and also by the superimposition of pathological changes. Some of the functional abnormalities associated with the ageing auditory system include: impaired sensitivity; derangement of loudness perception; impaired sound localisation; decline in discrimination, especially of speech; decrease in time-related processing abilities. Tinnitus, a biological noise generated within the hearing system, also exists in many cases (Fisch 1973:265).

Auditory acuity reaches its peak at the age of ten. The decline in sensitivity for the higher frequencies begins approximately at the age of 45. The major alterations are due to the loss of receptors from the organ of Corti and the loss of neurons in the auditory pathway. Men are more exposed to industrial noise, and high tone deafness occurs more often and at a younger age than in the female. However, several studies do not support the notion of normal hearing loss with age being principally induced by noise. Particular

losses can be induced by high noise exposure, but these can be differentiated from hearing loss due to age (Wicht 1990:26; Marsh 1980:158; Fisch 1973:270).

While the visual and auditory systems have received intensive study, the remaining sensory systems have been rather inadequately studied with regard to age effects. As regards **taste** the number of taste buds on the lateral surfaces of the tongue that detect sweet and salty tastes decrease, leaving the central taste buds, which identify sour and bitter tastes, to predominate (Beattie and Louie 1989:208).

(iv) Internal Systems

Cape (1978:23) identifies five essential functions involved in the process of living. These are nutrition, metabolism, circulation, elimination and homeostatic control. As the changes associated with the process of ageing has an effect on each of these functions they are examined further below.

Nutrition

Although the healthy older person has the same need for food and water to sustain bodily functions and to satisfy appetite as he or she may have had when younger, the amount needed of any single nutrient may be modified. This is because the age-related decline in lean body mass and increase in body fat leads to a reduction in the basal metabolic rate. Additionally older persons tend to be less active physically. But, while **dietary requirements** decrease with age, the ageing body has a diminished capacity to compensate for either excess or inadequate intake, thus dietary intake must match individual requirements (Miller et al 1977:487; Shank 1985:444; Davis 1990:315).

With ageing, physiological changes may affect **ingestion and enjoyment of food.** It was noted on p. 71 that the sense of taste changes with ageing. Some studies show that a decline in sensitivity to smell with ageing (Marsh 1980:160). The combined loss of gustatory and olfactory senses may lead to less interest in food. Decreased salivary flow, poor dentition and oral hygiene, and the decreased power of mastication which accompanies the ageing process may limit amount and variety of foods eaten. The superimposition of various pathological conditions may emphasise these physiological changes and affect access to and preparation of food. Ingestion may be also hampered

by gingival lesions, mucous membrane erosions, or difficulties with swallowing. Drugs such as digoxin and levodopa may reduce appetite. Psychological and social factors may also emphasise these changes. Psychological factors include: anxiety-depression states, alcoholism and dementia. Demented persons may simply forget to eat. Social factors include: isolation, economic hardship or poor cooking facilities (Beattie and Louie 1989:208; Davis 1990:319).

Swallowed food and water passes through the pharynx and the oesaphagus into the stomach which, in turn, leads into the small intestine where **digestion and absorption** occurs. These processes are controlled by the nervous and hormonal systems. Thus, any strong emotion that affects the nervous system unpleasantly inhibits the secretion of the digestive fluids and interferes with digestion, often checking the appetite and even preventing the intake of food. On the other hand, pleasurable sensations aid digestion, hence the value of attractively served food, pleasant surrounds, and cheerful conversation (Miller et al 1977:497).

Digestion may become slower with ageing. There is a reduced capacity to regulate the change process, hormonal induction of enzymes requires more time, and reduced numbers of hormone receptors are evident on cell surfaces. These factors may be increasingly significant in the face of pathological changes such as hiatus hernia, reflux, and/or atrophic gastritis. Although absorption appears to be little affected by ageing, many factors may affect this function. These include: quality of nutrients, the presence of medications, and the presence of various disease states. Finally, the cumulative effects of the changes of ageing are more prominent as the years go on and pathology may be superimposed (Beattie and Louie 1989:208).

Thus, as Davis (1990:316) suggests, nutrition in the elderly is complex, with interdependent physiological, psychological, and social components. Disease, if present, adds further complexity.

Metabolism

After absorption nutrients are metabolised for use in a variety of biosynthetic mechanisms which sustain organ functions and the integrity of the tissues, as well as maintaining body

temperature (Shank, 1985:446). Metabolism is thus a step-by-step building of small molecules into large ones, known as anabolism, or the breaking down of large molecules to smaller ones, termed catabolism (Miller et al 1977:19).

Basically there are two general types of metabolism. The major one is aerobic, requiring the consumption of oxygen. The minor one is anaerobic, where glucose is converted to lactic acid with the production of a small amount of energy. This occurs primarily in the skeletal muscle. The minimal aerobic requirement to maintain vital functions is defined by the basal metabolic rate, or minimal amount of oxygen consumed in the postabsorptive and relaxed resting states. This is proportional to body mass, especially lean body mass, and usually amounts to 4.0 to 3.5 mL per kilogram of body weight per minute for men and women respectively (Bruce 1985:87).

The **basal metabolic rate** slowly reduces from maturity onwards. It falls by about 20% between the age of 20 and 90. The actual quantity of oxygen used by every tissue is reduced by an amount which varies from organ to organ. This change is accompanied by an increase in anaerobic glycolytic activity and alterations in permeability of cell membranes. The general effect results in the reduction in the efficiency of energy provision and restricts the working capacity of the older person (Cape 1978:24).

Oxygen reaches the body through the **respiratory system.** Skeletal changes cause a steadily increasing rigidity of the thorax and a progressive weakness of the respiratory musculature. In addition the lungs lose their elasticity due to changes in the cellular composition, and a decrease in diffusing capacity. As a result ventilation and maximal breathing are reduced, with a resultant decrease in oxygenation. This reduction is exacerbated by smoking, obesity and immobility. Thus in order to take in more oxygen during exercise older persons must breathe faster. While this may limit energetic exercise, training can improve performance. There are other changes. Major changes occur in the neurohumoral control of respiration and the old person becomes more sensitive to hypoxia, or oxygen deficiency, and to particle laden air (Wicht 1990:29; Louw and Benatar 1990:258; Harrell 1988:226; Cape 1978:25).

During the process of digestion nutrients are converted into substances which can be oxidised and turned into energy. One of the substances is glucose. **Absorption of glucose** for use by the body takes place mainly into the capillaries of the small intestine, while regulation of the complex process is undertaken by certain hormones. One of these, insulin, is concerned with the transport of glucose across tissue cell membranes from the extracellular fluids. In the liver, insulin inhibits glycogen formation from noncarbohydrate sources (Miller et al 1977:518).

Glucose intolerance and insulin resistance is commoner in the aged. However, the relative contributions of normal ageing is uncertain. Similar glucose alterations also occur when younger individuals are confined to bed rest, have a chronic disease which limits their physical activity or nutritional status, or become potassium depleted. Other factors which usually accompany the ageing process may also play a role. These include: alterations in body composition (increased adipose mass, decreased muscle mass), physical fitness (increased sedentary life-style and inactivity), dietary habits (reduced total carbohydrate intake), the coexistence of acute and/or chronic illnesses, interacting medications and genetic syndromes (Goldberg et al 1985:752).

Studies have examined the mechanism(s) for the impaired **glucose tolerance** (with normal or hyperinsulinaemia) which occurs with ageing. They support the hypothesis that it is caused by an increase in the resistance of peripheral tissues (primarily muscle) to the metabolic effects of insulin. This seems to be due to a postreceptor defect in insulin action at target tissues, since insulin receptor binding is normal and insulin sensitivity is reduced. These investigators acknowledge, however, that there may be various patterns of insulin resistance and other mechanisms operative in the pathogenesis of the glucose intolerance observed in older individuals (Goldberg et al 1985:752).

The altered glucose metabolism with increasing age may also be caused by the presence of other endocrine-metabolic abnormalities which affect insulin action. These include: an increase in sympathetic nervous system activity after oral glucose challenge or during sleep; a delay in the clearance of insulin from plasma; a relative unresponsiveness of the B-cell to endogenous insulin secretagogues such as gastric inhibitory polypeptide; or to pancreatic hormones such as pancreatic polypeptide and glucoagen. Some studies imply

that insulin secretion may become impaired with ageing, but the likelihood of this possibility as a primary mechanism for the impaired glucose metabolism is small (Goldberg et al 1985:752).

Age appears to have little overt effect on **haematopoiesis**. Concentrations of the formed elements in the blood of health old individuals are essentially the same as in younger adults. There is no reason to believe that basal production and destruction rates are altered, except as affected by disease. General clinical information concerning reactions to stressful conditions suggests that defective responses of blood cells usually have explanations other than age. While the toxicity of marrow-damaging agents increases in the elderly, it is hard to differentiate between possible decreases in proliferative capacity and effects on other components of body adaptation and resistance (Finch et al 1985:372).

There are, however, special vulnerabilities of age which indirectly affect haematopoietic cells and their functions. For example, impaired nutrition, whether due to socioeconomic limitations, impaired physical mobility, or compromised sensorium, may reduce circulating levels of red blood cells, granuloctytes, and lymphocytes. Aged tissues are also more vulnerable to infection, and its presence will have secondary effects on blood cells. Finally, disorders of the immune system and malignancy are increasingly prominent with age and result in a variety of haematological abnormalities (Finch et al 1985:372).

Circulation

For the body to be maintained in a state of health the individual cells, tissues, and organs must have a continuous supply of oxygen and other nutrients, associated with the removal of carbon dioxide and waste materials. This need is filled by the cardiovascular system: the heart and blood vessels through which the blood is constantly moving (Miller et al 1977:336).

Under resting conditions, overall **cardiac performance** is not altered by age in normal persons. However, age-related changes do occur and they appear to impose a progressively increasing load on the heart. Classic studies of exercise physiology have

indicated that maximum exercise performance diminishes with age in apparently healthy persons (Weisfeldt et al 1985:263).

Cardiac output is the volume of blood pumped out by the left ventricle in one minute. It depends on the rate of the heart (the number of beats/min) and on the stroke volume (the amount of blood pumped out in one beat) (Horrobin 1973:112). Cardiac output decreases approximately 1% per year in the age-range of 20-80, while the stroke volume decreases 0,7% per year. During exercise the minute volume in the aged is less than in a younger person. The amount pumped per square metre of body surface decreases from 3,75 litres per minute in the 30-year old to 2 litres per minute in the 90 year old (Wicht 1990:28).

Histological studies of the **blood vessels** demonstrate that with ageing there is an increase in intimal thickness, elastin fragmentation, calcification, collagen content, and material stiffness as well as decreased distensibility (Wicht 1990:28).

Although the age-related decrease in cardiac output has no marked effect on the body while at rest nonetheless **blood flow** to the various organs is affected. The extent varies. For example, blood flow to the kidneys is reduced by 50%. Equally dramatic reduction occurs in the splanchnic and cutaneous circulations, while cerebral blood flow decreases by 20% over 40 years (Weisfeldt et al 1985:263; Wicht 1990:28).

Blood volume affects cardiac output and blood distribution. There is ordinarily about 62 mL of blood per kilogram in the female and 68 mL in the male, although a more accurate reference point is the height:weight ratio or lean body mass. In the aged individual, it is much more difficult to estimate normality. Functional blood volume tends to decrease in keeping with the decrease in muscle mass and is further reduced by a decrease in metabolism. Concurrently, the venous system, particularly in the legs may be enlarged and inelastic. The net result is an unchanged blood volume but a reduced capacity to redistribute blood flow (Finch et al 1985:373).

Cardiovascular function is the result of a complex interaction of modulating factors, some intrinsic to the heart itself, other extrinsic. These factors may influence the age-related

changes in cardiovascular functioning. An intrinsic factor is cardiovascular disease, while extrinsic factors include: changes to central nervous system functioning, decreased maximum or ventilatory capacity, increased rate of breathing, psychological factors, peripheral muscular fatigue, metabolic changes within peripheral muscle and/or prior state of average daily activity (Wicht 1990:28; Weisfeldt et al 1985:249).

Elimination

An important aspect of metabolism is the elimination, or excretion, of by products. There are four important excretory systems, namely, the respiratory system, the urinary system, the digestive system and the skin (Miller et al 1977:540). As the respiratory system and skin have already been discussed above this section focuses on the urinary and digestive systems.

The urinary system, comprising the kidneys, ureter, bladder and urethra, is the most important system in maintaining electrolyte and water homeostasis. Nitrogenous waste, electrolytes and water are excreted as urine. This entails a certain obligatory water loss.

With ageing, the **kidneys** take longer to remove waste products from the blood and their ability to concentrate urine declines. As a result the elderly are more susceptible to renal failure with relatively minor disturbances in metabolism, fluid status, or with infection. Additionally, central **bladder control** weakens, while bladder tone increases and capacity decreases. The result is that micturation cannot be postponed so incontinence may occur.

In women pelvic floor relaxation (secondary to a reduction in muscle mass and the elastic properties of the tissues) also occurs. This reduces the **capacity of the bladder** and its emptying efficiency. Additionally, loss of vaginal secretions result in loss of Doderlein's bacilli with resultant colonisation of the vagina and increased susceptibility to urinary tract infection (Wicht 1990:30,43; Fretwell and Lipsky 1985:482).

For men prostatic hypertrophy can lead to outflow obstruction which reduces the **efficiency of the bladder**. Reduction in the amounts of prostatic fluid, which has antibacterial properties, may also contribute to the enhanced susceptibility to bacterial

invasion of the genitourinary tract amongst ageing men (Wicht 1990:30,43; Fretwell and Lipsky 1985:482).

The Digestive System. As already noted above digestion mainly takes place in the stomach and small intestine. Unusable material is passed into the large intestine where it is combined with other waste matter from the body and formed into faeces. The faeces pass into the rectum from where they are eliminated via the anal canal.

In the elderly there is a loss of **muscular tone**, and a delay in transit time through the large instestine or colon. In addition there is often diminished **rectal awareness** and neglect of the need to defaecate. These changes often cause constipation, which may be aggravated by the use of certain drugs, a lack of variation of meals, decreased fibre intake, poor dentition, high cost of the correct foods, impaired mobility, inactivity and poor fluid intake. Constipation may be exacerbated by a lifetime of laxative abuse fostered by the idea that a daily bowel action is necessary to achieve "internal purity". However, most normal adults produce a stool from three times a day to three times a week. Debilitating illness resulting in prolonged bed rest is another source of constipation. Then there is impact of stress, which is often aggravated in the elderly because of their low resilience. The most frequent stresses encountered include: loneliness, rejection by families, impending death, an incurable illness, forced retirement and financial worries. Finally, there is the impact of a depressive illness. Depressives reject the urge to defaecate and constipation may result (Bank and Marks 1977:410; Regensberg 1990:56).

Faecal impaction and chronic constipation are other problems which may cause abdominal distension, leaking and soiling of underclothes or even frank incontinence, nausea and vomiting, spurious diarrhoea, mechanical ileus and obstruction, severe confusion at times, urinary incontinence and rectal bleeding from stercoral ulceration (Bank and Marks 1977:411; Meiring 1990:341).

Homeostasis

Cape (1978:34) defines homeostasis as the need of the body to maintain a constant internal environment despite external changes. In clinical terms this control governs body

fluid and acid-base balance, blood pressure, temperature, appetite, thirst and reaction to stress of all kinds.

Body Fluids and Acid-Base Balance. Water is the universal medium in which all of the complex metabolic processes of life take place. Water, electrolyte concentration, and pH are interrelated, and it is only by the careful regulation of extracellular fluid volume and concentration that normal cell activity can occur (Miller et al 1977:558).

With ageing total body water declines to approximately 54% in the male and 46% in the female. This alteration is brought about by a change in the ratio of lean to fat, rather than by general dehydration of the tissues. (Wicht, 1990:24) Despite the decline, older persons are able to retain a remarkable capacity to maintain the chemical and physical composition of the body fluids within a narrow normal range under basal conditions. However, when deficits or excesses imposed by disease or environmental stress disrupt this equilibrium a longer period of time elapses before there is a return to normal (Lindeman 1989:248).

Temperature. Human temperature is carefully regulated by a variety of mechanisms. In the absence of perturbations this remains at 37°C. Deviations from normal occur within each individual on a daily basis, and temperature varies approximately 1°C during 24 hours (Besdine and Harris 1985:209).

There is no significant difference between body temperature of a healthy older person and that of a young person. The temperature regulating mechanism, however, does not operate as effectively in old people, with the result that they are more sensitive to environmental temperature changes. Some elderly individuals cannot maintain a normal core to periphery gradient; and only a certain percentage of elderly subjects shiver in response to cold stress. Similarly, sweating is more difficult to provoke in the elderly as they not only require a higher core body temperature to initiate sweating but their maximal production of sweat is lower. A decline in left ventricular contractile reserve which affects the ability to respond to stress further compounds the problem (Wicht 1990:33).

Hunger and Thirst. Thirst responses tend to be impaired with increasing age due to a decreased response to reduced extracellular fluid volume and hypovolaemia (Beattie and Louw 1989:214; Davis 1990:319). Loss of appetite is a common problem amongst older patients. However, the position regarding the hunger response is not clear. Hunger centres in the hypothalmus receive and respond to input from the environment and gut. Damage to these areas of the brain can result in changes in appetite. Some medications may influence these centers directly and result in anorexia, or the loss of appetite (Gibbons and Levy 1989:197). It would seem though, that loss of hunger is mostly associated with the diminished sense of taste and smell, decreased salivation and dental disorders as well as those socio-economic factors already noted (p. 72).

Blood Pressure. There are different types of blood pressure, systolic, diastolic, and pulse pressure. In a normal adult the blood pressure range is 90 to 140 systolic and 60 to 90 diastolic (Miller et al 1977:407; Horrobin 1973:99). Although absolute values tend to vary according to the measurement techniques employed, blood pressure appears to rise progressively throughout life. However, there are sex differences. Cross-sectional studies show that systolic blood pressure in females rises at a more or less constant rate until the seventh decade. The rise in males is rapid up until adolescence but thereafter becomes more gradual. Thus systolic blood pressure tends to be higher in males than females during the first half of life but the reverse is true in later years. In both sexes diastolic blood pressure rises less rapidly with ageing (Whelton 1985:536; Burris 1989:81; Wicht 1990:28).

Although average blood pressure tends to rise with ageing there is considerable variation amongst population subgroups. Moreover other factors may be involved. Several investigators have found that the rate of rise in blood pressure over time is independently related to the starting level of pressure. A 1970-4 survey in the United States also showed that blood pressure between the third and seventh decade was consistently higher in blacks than in whites. Finally, genetic and environmental factors, such as blood sugar level and ambient temperature have been found to influence the relationship between age and blood pressure (Whelton 1985:36).

Homeostasis and Reaction to Stress. Stress is described by Cape (1978:35) as the nonspecific response of the body to any demand made upon it. Thus almost every activity creates stress. Homeostatic mechanisms in the elderly appear to maintain norms for temperature, blood pressure, acid-base balance, and state of hydration under basal conditions. However, on exposure to only mild stress, the control becomes increasingly brittle and subject to a degree of impairment or even collapse. Although some stress may play a role in prolonging life Cape (1978:35) notes that the ageing organism becomes progressively less able to adapt and death must inevitably result.

5.2. PRESENTATION OF FINDINGS

From the review of literature it has become apparent that the ageing process leads to irreversible phsyiological changes which ultimately impair functioning. It has also become apparent that the changes proceed at different rates for different individuals. This is clearly demonstrated in the findings presented below.

5.2.1. PHYSICAL SELF MAINTENANCE ACTIVITIES

A total of 244 respondents answered questions relating to the Physical Self Maintenance (PSM) Scale. From the findings presented in Tables 16 and 17 it is seen that:

- Well over half (52%) were totally independent as regards all aspects of physical self-maintenance and ambulation.
- At the other end of the scale, five per cent were totally dependent as regards all aspects of physical self maintenance and ambulation.
- Bathing created the most problems. Compared to ambulation (39%), dressing (32%), grooming (30%), toiletting (23%) and feeding (10%), almost half (44%) required some assistance when bathing.
- Dependency in one category did not necessarily mean dependency in others. However, the 24 (10%) elderly patients who showed some degree of dependence regarding feeding, also showed some degree of dependence regarding all other aspects of physical self-maintenance including ambulation.

TABLE 16: PSM SCALE SCORES

	DEGREE OF DEPENDENCE							
	Independent		Minimum Assistance		Major Assistance		Dependent	
Activity	N	%	N	%	N	%	N	%
Toiletting	187	76.64	28	11.48	4	1.64	25	10.24
Feeding	220	90.16	5	2.05	5	2.05	14	5.74
Dressing	166	68.03	6	2.46	51	20.90	21	8.61
Grooming	170	69.67	9	3.69	46	18.85	19	7.79
Bathing	137	56.15	64	26.23	17	6.97	26	10.65
Ambulation	148	60.65	69	28.28	7	2.87	20	8.20

Total N = 244
Frequency Missing = 118

TABLE 17: PSM SCALE TOTAL SCORES

Total Score	N	%
06	126	51,64
07 - 09	40	16,39
10 - 12	30	12,29
13 - 15	18	7,38
16 - 18	9	3,69
19 - 22	9	3,69
24	12	4,92
Total	244	100,00

Frequency Missing = 118

5.2.2. INSTRUMENTAL ACTIVITIES OF DAILY LIVING

Two hundred and forty-five responses were recorded for questions relating to the Instrumental Activities of Daily Living (IADL) scale. From the findings shown in Tables 18 and 19 it is seen that:

- Twelve (5%) respondents were totally dependent as regards physical self maintenance and the instrumental activities of daily living.

- While over half the respondents were able to use the telephone (66%), take their own medication (63%) and handle their own finances (56%), most showed some degree of dependence as regards shopping (92%), housework (90%), laundry (88%), transport (74%) and food preparation (71%).

TABLE 18: IADL SCALE SCORES

	DEGREE OF DEPENDENCE							
	Independent		Minimal Assistance		Major Assistance		Dependent	
Activity	N	%	N	%	N	%	N	%
Telephone Use	161	65.71	14	5.71	26	10.61	44	17.96
Shopping	19	7.76	55	22.45	47	19.18	124	50.61
Food Preparation	71	28.98	21	8.57	47	19.18	106	43.27
Housework	24	9.80	91	37.14	19	7.76	111	45.30
Laundry	30	12.24	76	31.02	21	8.57	118	48.16
Transport	63	25.71	49	20.00	81	33.06	52	21.22
Medication	153	62.45	6	2.45	63	25.71	23	9.39
Finances	136	55.51	25	10.20	19	7.76	65	26.53

Total N = 245

Frequency Missing = 117

TABLE 19: IADL SCALE TOTAL SCORES

Total Score	N	%
08	16	6,53
09 - 12	25	10,20
13 - 16	59	24,08
17 - 20	36	14,69
21 - 24	38	15,51
25 - 28	29	11,84
29 - 31	30	12,24
32	12	4,90
Total	245	100,00

Frequency Missing = 117

In addition, when the IADL scale total scores are compared to the PSM scale total scores it is seen that proportionately fewer patients received the lowest possible score, thus were completely independent: 7% (IADL) as compared to 52% (PSM).

(i) Ability and Need

Problems are likely to occur if those respondents with some degree of dependence have to undertake the activities of daily living. The findings show that of the 245 respondents:

- 173 (71%) had no **telephone** in the home. Over one quarter (29%) of this group showed some degree of dependence.
- 25 (10%) needed to **shop**. Almost two-thirds (64%) of this group showed some degree of dependence.
- 16 (7%) needed to **cook**. Under ten per cent (6%) of this group showed some degree of dependence.
- 6 (2%) needed to do **housework**. Under one-quarter (17%) of this group showed some degree of dependence.
- 8 (3%) had to do their own **laundry**. None of this group showed any degree of dependence.
- 83 (34%) needed to use **public transport**. Almost half (47%) of this group showed some degree of dependence.
- 68 (28%) had to administer their own **medication**. No-one in this group showed any degree of dependence.
- 4 (2%) had to manage their own **financial affairs**. All showed some degree of dependence.

(ii) Differences between Population Groups

Possible differences between the population groups were explored. The total sample of 245 respondents comprised 41 blacks, 167 coloureds/Asians and 37 whites. The findings are summarised below:

- 32 (87%) whites, 111 (67%) coloureds/Asians and 18 (44%) blacks, were independent, as regards the use of the **telephone**. At the other end of the scale, 1 (3%) white, 28 (17%) coloureds/Asians, and 15 (37%) blacks could not use the telephone at all.

- 10 (27%) whites, 6 (4%) coloureds/Asians and 3 (7%) blacks were able to **shop** independently. However, 14 (38%) whites, 93 (56%) coloureds/Asians and 17 (41%) blacks were completely unable to shop.

- 18 (49%) whites, 41 (25%) coloureds/Asians and 12 (29%) blacks were able to prepare their own **food** independently. Again the figures for total dependency amongst all population groups was high: 12 (32%) whites, 73 (44%) coloureds/Asians, and 21 (51%) blacks.

- 11 (30%) whites, 8 (5%) coloureds/Asians and 5 (12%) blacks were independent as regards **housework.** At the other end of the scale 15 (41%) whites, 80 (48%) coloureds/Asians, and 16 (39%) blacks were unable to participate in any household task at all.

- 13 (35%) whites, 10 (6%) coloureds/Asians and 7 (17%) blacks were independent as regards their ability to do their own **laundry**. However, 13 (35%) whites, 87 (52%) and 18 (44%) blacks had to have their laundry undertaken for them.

- 16 (43%) whites, 33 (20%) coloureds/Asians, and 14 (34%) blacks were able to **travel** independently using either public transport or their own car. 5 (14%) whites, 39 (23%) coloureds/Asians, and 8 (20%) blacks could only travel by ambulance.

- 27 (73%) whites, 106 (63%) coloureds/Asians, and 20 (49%) blacks were able to take full responsibility for the administration of their own **medication**. However, no whites, 21 (13%) coloureds/Asians, and 2 (1%) of blacks had to rely on others for administration of their medication.

- 25 (68%) whites, 92 (55%) coloured/Asians and 19 (46%) blacks, were able to manage all matters relating to their **financial affairs**. 4 (11%) whites, 48 (29%) coloureds/Asians, and 13 (32%) blacks were incapable of handling money.

5.3. DISCUSSION OF FINDINGS

In view of the phsyiological changes that occur as people age, the findings presented above, which show that functional impairment is common in geriatric patients admitted to the EU of GSH, are to be expected. Comparisons with other studies are, however, of limited value. Ageing is characterised by increasing variance between individuals and between populations. Furthermore, as Ben-Arie et al (1983:1059) point out, different assessment procedures may have been used and the same apparent diagnosis in two studies may be based on different criteria. Nevertheless the extent of functional

impairment is comparable to other local community and hospital studies of elderly populations. (Prinsloo et al 1989:102; Elk et al 1983:1019; Trichard et al 1982:626; Gillis et al 1981:151; Hofmeyr and Meiring 1975:1615; Wolff 1978:119; Meiring et al 1983:671; Padayachee 1989:133).

In this study there are striking differences between the numbers showing dependence as regards physical self maintenance activities and those describing the instrumental activities of daily life. By and large, instrumental activities require more movement and effort than do physical self maintenance activities. During the process of ageing there is a reduction in cardiovascular function, range and speed of movement, plus muscular weakness and joint stiffness.

Referring specifically to the United States of America, Hendricks and Hendricks (1986:13) note that with few exceptions, women, non-whites and the poor suffer more from ill-health in the process of becoming older. In this study of hospital elderly, impairment as regards seven of the eight activities of daily living was far greater amongst blacks and coloureds. Whites were more independent as regards use of the telephone, shopping, food preparation, housework, laundry, administration of medication, and management of their financial affairs. These findings show an interesting relationship to a study of the functional abilities of white and coloured aged living in the urban and rural environs of the Western Cape by Prinsloo et al (1989:103). That study showed that impairment was far greater among the coloured aged and that it progressively worsened from city to rural town to rural villages. It was suggested that this was due to the poor economic status of coloureds and scarcity of medical treatment in the rural areas compared with the urban areas. Even though the financial situation of the sample population is examined it would not be possible to assume that the same applies to this study.

Moreover, as noted on p. 39, the IADL scale calls for an evaluation of the ability of respondents to undertake activities such as cooking, shopping, food preparation, laundry and housework: tasks commonly performed by women. It was also noted that cultural practices dictate that the elderly expect to be relieved of some duties. A study of rural black elderly by Dubazana (1989:44) found that the majority reported satisfaction with

being under the "guidance of other people" in doing a task. When respondents were asked whether, if in difficulty, they would rather be "left alone" or whether other people should come to their rescue 82% of males and 14% of females indicated that they preferred to be rescued. Regarding reaction to imposed authority, 32% of the males and 40% of the females replied that they did not object to such authority. It could be argued, therefore, that the extent of impairment as regards the instrumental activities of daily living is not a true reflection of ability: it not only reflects ability, but also cultural expectations and practices.

There is also another dimension. To what extent is ability a reflection of need? The findings in this study show that not more than 10% of the sample needed to shop, cook, do housework or laundry, or manage their own financial affairs. It has become clear that as people age they may take longer to complete a task, so it may be more convenient not to involve the elderly person in the running of the household.

As the concern of this study is identify the needs of the elderly with a view to developing more cost-effective services, the finding, that not more than 10% need to undertake the instrumental activities of daily living, is pleasing. This does not, of course, rule out the possibility that the actual percentage of persons requiring additional help may be larger, because caregiving is a burden. A study of coloured elderly in Cape Town showed this to be the case (Elk et al 1983:1018). As this will only become apparent once the remaining findings have been presented and discussed, attention now turns to the impact of ageing on other aspects of functioning: morale and cognitive functioning.

CHAPTER 6

MORALE AND COGNITIVE FUNCTIONING IN LATER LIFE

According to the biopsychosocial perspective a living system is a combination of two different hierarchies. At the interface of these hierarchies is the person, whose biological constitution is impacted upon by social experiences and interactions to form the elements of one of three major components, the psychological component. The psychological component of the ageing process is the concern of this chapter.

The psychological component includes perception, cognition, experiences and behaviour. In the review section age-associated alterations in perceptual and cognitive capabilities will be examined. As personality encompasses all varieties and form of behaviour, there is also an examination of the aged personality. The findings to be presented and discussed show the morale and cognitive functioning of the sample population. In addition findings which show the subjective evaluation of the hearing, eyesight, weight, lucidity and co-operativeness of the sample population are presented and discussed.

6.1. REVIEW OF LITERATURE

6.1.1. AGEING AND COGNITION

Cognition is the way people deal with information, how they register, retain, retrieve, and use information (Robertson-Tchabo and Arenberg 1985:130). Aspects of cognitive functioning considered below include attention, language, memory, learning, visuospatial ability and creativity.

(i) Attention

Attention is presently thought to comprise at least three interrelated aspects: sustained attention (vigilance), selective attention (the ability to extract relevant from irrelevant information), and attentional capacity (the total attentional resources available to an individual). Numerous studies have demonstrated that tests of sustained attention are performed extremely well into old age. Studies of selective attention are contradictory. It appears, however, that older subjects find difficulty in performing tasks that require them to ignore irrelevant stimuli, possibly as a result of perceptual, not attentional, difficulties. Finally, although findings point to a general slowing of attentional capacity, or information processing, with age the evidence is inconclusive (Albert 1988:33).

(ii) Linguistic Ability

Linguistic ability is thought to encompass at least four domains: phonological, lexical, syntactic, and semantic. Studies of the phonological, and lexical aspects of linguistic ability show no age-related changes. However, although studies show that age has little effect on syntax, syntatic structures that impose high memory demands are reported to show age-related decrements. Age-related deficits in comprehension of complex material have also been shown. It has been suggested that these may be the result of memory rather than comprehension deficits. Finally, semantic linguistic ability appears to change with advancing age (>70), while other aspects of linguistic ability are relatively well preserved (Albert 1988:36).

(iii) Memory and Learning

Learning has been defined as the acquisition of information or skills and memory as a series of specific yet interactive stores. (Siegler 1980:171; Albert and Heaton 1988:38). The distinction between learning and memory is confusingly vague, since the demonstration of learning necessarily involves retrieving data from the memory bank of the brain. Thus, precisely where learning leaves off and the memory begins is unclear (Hendricks and Hendricks 1986:210).

Two types of memory need to be distinguished since age affects them differently: long-term or secondary memory and immediate recall. **Long-term memory** is viewed as a memory store that can contain an unlimited amount of information for an indefinite

period of time (hours, days, years). Generally, it appears that long-term memory is highly resistant to the effects of normal ageing; "vocabulary" skills and details of personal history, past experience, and knowledge tend not to be lost with age. Even when dementia causes memory loss, the old "rehearsed" memories that are often recalled and reviewed are the last to be lost (Kimmel 1974:379).

Although the incidence of memory impairment tends to rise with age, many persons retain a sound memory. Several theories have been proposed to account for this phenomenon. These are: that memories are lost through disuse; that memories are lost through the interference of other memories in the large store of accumulated memories; and that neurochemical change or loss of cells in the central nervous system accounts for memory loss. Currently the interference theory in combination with neurochemical factors seems to be favoured: that is, with ageing, the amount of stored information increases while the neural changes (loss of cells, increased chemical noise, and general slowing down) leads to slower and less-efficient processing of the stored information. There also appears to be a relationship between memory loss and unknown health factors and even a mild degree of vascular disease (Kimmel 1974:379; Schiamberg and Smith 1982:625).

As with long-term memory a great amount of data has been collected on **short-term memory**. These experiments deal primarily with the acquisition and registration stage of memory, although retention and retrieval are also involved. In general, these studies have found a decline in immediate recall with advancing age. It is not clear though, whether this decline is a result of impairment in the acquisition, or in the retention and retrieval, of memory. Several studies of the elderly point to the decline as a result of interference with the acquisition process. Yet others suggest that although it is a problem of retrieval, the acquisition process may be more easily interfered with (by faster stimulus exposure rate or alternating visual and auditory inputs, for example) in older subjects. Moreover, under optimum conditions, acquisition may work as well in old as in young person (Kimmel 1974:380).

Although the decline in short-term memory seems rather clearly to indicate **learning** deficiencies with advancing age, the relationship between these deficits and pure learning

ability is unclear. The results of learning experiments would suggest that, in fact, the decline in learning ability is more a reflection of a decline in performance, not learning, ability (Kimmel 1974:380).

(iv) Visuospatial Ability

Visuospatial ability is reflected in both the production and recognition of figures. Tasks used to assess visuospatial ability include: constructional tasks, such as assembling blocks, sticks, or puzzles; drawing tasks, involving copying; or matching tasks requiring subjects to identify pictures with similar elements. Albert (1988:44) has examined various studies, some of which show declines. Summarising the findings, she notes that different neuroanatomical substrates are involved with visuospatial ability and that these are differentially affected by age.

(v) Thinking and Creativity

Changes in intellectual functioning and in learning and memory must undoubtedly have an effect on thinking process and creativity. Findings of research point to decrements in concept attainment amongst elderly subjects. They tend to take less advantage of negative information and are less likely to change concepts that are inadequate. Problem solving abilities also show declines among elderly subjects. Redundancy, difficulty in handling new concepts and inability to make use of efficient strategies in problem-solving are other aspects of thinking processes that have been found to characterise elderly subjects (Kimmel 1974:382).

Elderly persons are also described to be more rigid or cautious in their thinking than young persons. One interpretation of these changes is that the old person sacrifices speed for accuracy (rigidity) and sacrifices abstraction for functional conceptualisations (concreteness). But, while older subjects will take a "no risk" option more frequently than young subjects on a questionnaire, they will take the same extent of risk when there is no "no risk" option available. Cautiousness may thus be a tendency to avoid fear of failure when choices exist (Kimmel 1974:382).

Studies of the creative production of great men have found that overall, creativity declines, particularly with increasing age. Exceptions do appear to exist, notably amongst

scholars in the humanities. It has been suggested, therefore, that the decline with age is probably the result of a number of interacting factors. These include: a decrement in physical vigour and sensory capacity, hormonal changes, more preoccupation with practical concerns, less favourable conditions for concentration, weakened intellectual curiosity, more illness and mental disorders, and finally, an accumulation of unfavourable habits (Kimmel 1974:382).

(vi) Intellectual Capacity in Old Age

The evidence suggests that several aspects of cognitive functioning show alterations with age. These alterations it would appear result from a deterioration in central nervous system functioning in combination with other factors, such as generational differences in education, nutrition, socioeconomic conditions and health care. Another factor found to influence performance on IQ tests, is impending death. An accelerated rate of change, or terminal drop has been noted in subjects who have relatively little time to live (Hendricks and Hendricks 1986:217; Katzman and Terry 1983:20; Siegler 1980:183).

However, there is great variability in the degree of cognitive change. Whereas a sufficient number of older individuals experience change so that the mean of the group is reduced many continue to perform as well as subjects many decades younger than themselves. In addition amongst age-related subjects the declines vary considerably until later life when it becomes rapid for all subjects.

After examining studies of IQ tests to assess age-by-education interaction effects, Albert and Heaton (1988:20) proposed three possible explanations to account for the cognitive variability in later life. Firstly, the best educated and least educated may differ in health care and nutrition. This leads to significant differences in some aspects of health status (e.g. prevalence of hypertension), which may have an impact on central nervous system functioning. Secondly, although all subgroups experience similar age-related deterioration in central nervous system functioning, those with a higher education are better able to function with these changes because they were more intelligent to start with. Lastly, well educated subjects tend to maintain cognitive abilities better through the middle age period because they use these abilities more. Conceivably, then, even the cognitive

abilities of well educated subjects suffer during their retirement years as a consequence of relative disuse.

Hendricks and Hendricks (1986:215) comment on this possibility. They suggest that the intellectual abilities of older people do not decline, but they may become obsolete. To begin with older people are usually further removed from their formal educational experiences. Extraneous factors unrelated to intellectual talents are also more likely to affect older test takers: foremost among these is probably fatigue. Perhaps most significantly the socially stultifying or impoverished circumstances in which the elderly sometimes find themselves may be an intellectual handicap.

6.1.2. THE AGED PERSONALITY

According to Bischof (1976:170) personality is an omnifarious term encompassing all varieties and forms of behaviour. Thus, the answer to the question of whether the ageing process leads to changes in personality depends upon the terms employed, the tests used, and the methodology selected. This study has selected for examination personality traits, adjustment and life satisfaction, and finally, self-concept in old age.

(i) Personality Traits

Personality can be described as individual differences in enduring and characteristic ways of thinking, feeling, and acting. Numerous trait-names exist for these differences, for example, insecure, fun-loving, imaginative, generous, hardworking, and hundreds of scales and inventories have been developed by personality psychologists to measure traits, types, needs, and temperaments. However, a substantial body of literature has arrived at the conclusion that there are only five major dimensions of personality, namely: neuroticism, extroversion, openness to experience, agreeableness, and conscientiousness (Costa and McCrae 1985:270).

In general studies have found that, within broad limits and social and biological conditions, personality shows little or no change with age. Not only is there no change in the average level of traits, there is also exceptional stability of characteristics within the

individual (McCrae and Costa 1985:142; Bischof 1976:171; Thomae 1980:286; Neugarten 1972:9; Storandt 1986:611).

(ii) Adjustment and Life Satisfaction

Personality is also described as a system of different, often conflicting forces or drives and of adjustive mechanisms. Adjustment to situations influences degree of life satisfaction and mood. In addition to this emotional-affective outcome adjustment is reflected in the manner in which the behaviour of the organism corresponds to the challenges of its environment.

McNeil et al (1986:35) note that the terms subjective well-being, adjustment, life satisfaction, happiness, and morale all refer to aspects of mental health or subjective well-being. They point out that the use of so many different terms for the same underlying construct has led to much discussion and considerable confusion in the literature over exactly what is being measured. In this section, therefore, there is consideration of theories of personality development and of theories of the psycho-social process of ageing. This is followed by an examination of studies of successful ageing and of personality types, successful ageing and activity levels.

Theories of Personality Development

According to Erikson (1963) the key to harmonious personality development in the later years of life is the ability to resolve the psychosocial crisis known as integrity versus despair. Ego integrity implies a full unification of the personality, and the manner in which this crisis is met depends on a number of other factors, including the relevance of social roles, the life-style led, and physical health (Turner and Helms 1979:432; Bischof 1976:34).

Ego integration enables individuals to view their lives with satisfaction and contentment. Having had satisfying social relationships and a productive life promotes a feeling of well-being. Integrity also implies a sense of purposiveness. If individuals are unable to accept themselves in the last stages of their life for what they are (integrity) then life ends on a note of despair.

Erikson proposed **eight ages of ego development** - the last commencing in late adulthood. Peck (1968:88) suggests that the final stage is too long, covering more time than is covered by all the preceding stages. He maintains that later life is characterised by three primary psychological adjustments. The first is ego differentiation versus work role preoccupation: Am I valuable as a human or valuable only because I can work? The second is body transcendence versus body preoccupation: Can I accept my ageing body for what it is and enjoy it or will I become overly preoccupied with my state of health and sickness, real or imagined? The third is ego transcendence versus ego preoccupation: the task here is that of positive adaptation to one's own death.

Havighurst (1973:10) has also provided a classification system which divides the life span into **six age periods** and delineates the developmental tasks that should be mastered in each period. Similarities exist between the theories of Erikson and Havighurst. Development is considered a lifelong process; developmental tasks not mastered in one period can be made up but with difficulty and with the likelihood of considerable stress and anxiety; failure to master the developmental tasks of one period may jeopardise full development at a later period. There are also differences in that unlike Havighurst, Erikson feels that fulfillment at any one stage does not automatically guarantee success in the next, and that the individual may backslide after having successfully passed an earlier stage (Bischof 1976:32).

Theories of the Psychosocial Process of Ageing

Bischof (1976:35) points out that although the above theories of personality development are popular for use as theoretical guidelines they have not instigated much reproducible research. However, two other popular theoretical approaches, disengagement and activity, have generated considerable research. Disengagement theory states that the elderly withdraw from active social life. Wellbeing in retirement is the result of passive adjustments, i.e. individuals reducing their aspirations and expectations rather than maintaining their former levels of achievement. (Møller 1989:50; Turner and Helms 1979:434; Palmore and Maddox 1977:48).

In contrast, **activity theory** holds that activity levels are affected more by past life-styles and socioeconomic forces than by any intrinsic and inevitable process; and that

maintaining or developing substantial levels of physical, mental and social activity is usually necessary for successful ageing (Palmore and Maddox 1977:48).

Palmore and Maddox (1977:50) state that most of the evidence supports the general applicability of the activity theory; continued engagement appears to be typical of the majority of normal ageing persons; disengagement is not inevitable, except perhaps just before death; the amount of activity is strongly related to past life-styles and to external factors; and maintaining activity is usually associated with more successful ageing and life satisfaction. However, they stress that the American culture emphasises extroversion, a "work ethic", and active mastery, rather than passive acceptance, of nature and the world. Turner and Helms (1979:434) also point out that some aged persons disengage substantially and yet maintain their levels of life satisfaction.

Activity theory has other limitations. It represents an oversimplification of the complex and highly individual process of ageing. As Hendricks and Hendricks (1986:90) point out "it may hardly be appropriate merely to substitute pastimes, geared to what is thought to be older persons' interests and abilities, for those roles they surrendered as they moved beyond middle age. Busying oneself with enterprises meaningless in terms of dominant cultural values, presumably still subscribed to by older people, may not in itself contribute to adjustment". Nonetheless they acknowledge that both longitudinal and cross-cultural investigations of old age have repeatedly found a positive, but by no means incontrovertible, association among morale, personal adjustment, and activity levels.

Studies of Successful Ageing

Studies to determine the correlates of successful ageing suggest that it is the perceived or actual health status of the person which mainly determines the level of morale in old age. In addition successful ageing has been correlated with advancing age, being employed or married, having sufficient income, and higher socio-economic status (the higher the better). It has also been correlated with persons who have a middle level of education. Other factors, include: satisfaction with leisure time and activities; the presence of a confidant with whom the older adult may share intimate joys, worries, concerns or cares; and previous lifestyle and characteristics. The availability of transport is also of importance for those living some distance away from community resources.

Finally, subjective well-being has been found to be correlated with itself at a later time (Storandt 1986:611; Neugarten et al 1968:173; Neugarten 1972:9; Bischof 1976:175; Chatfield 1977:593; Sauer 1977:607; Mancini and Orthner 1980:466; Mancini 1978:551; Cutler 1972:383; Larson 1978:111; McNeil et al 1985:59).

McNeil et al (1986:61) have reviewed studies of predictors of subjective well-being in later life for which objective measurement was obtained. They note that the prediction of subjective well-being variance by separate predictors is small. Health, the most powerful of all predictors, is capable of predicting, at most, only 16% of the subjective well-being variance. Most other objective predictors account for 1 to 10% of the subjective well-being variance. They conclude that the longer term stability of subjective well-being has been found to explain more of the variance than all of its objective predictors combined. Consequently, an interpretation warrants consideration that subjective well-being scales measure a trait dimension.

Personality Types, Successful Ageing and Activity Levels

If, as McNeil et al (1986:60) suggest, subjective well-being is a trait, then it probably predicts other variables. The evidence would suggest that this may be the case. Reichard et al (1968:178) have identified three types of personality in men that lead to good adjustment in old age - the Mature, the Rocking Chair and the Armoured - as opposed to two that seem to produce poor adjustment - the Angry and the Self-Haters. Others have have examined the relationship between personality, life satisfaction and activity levels amongst subjects ranging in age from 70-79 (Neugarten 1972:9). Four personality types were identified: integrated, armored-defended, passive-dependent and unintegrated, disorganised personalities. As can be seen from Figure 3 there is considerable overlap between the studies. Thus it is possible, as Turner and Helms (1979:440) suggest, "people with well-integrated personalities appear to handle the adjustments of old age effectively."

(iii) Self-Concept and Self-Esteem

Self-concept, the self one thinks oneself to be, has been described as a primary directional factor in the personality of the individual. Perceptions of self-worth, or self-esteem govern basic motivations and levels of aspiration which determine adjustment levels (Savage et al 1977:47).

FIGURE 3: PERSONALITY TYPES, ADJUSTMENT AND ACTIVITY LEVELS IN OLD AGE

Personality Types and Successful Ageing in Older Men

Successful

The mature (constructive) men: High level of acceptance of self and past lives. Satisfied with activities. Free from neurotic conflicts. Maintain close relationships.

The "rocking-chair" men: High level of self-acceptance. Passive approach to life. Old age perceived as freedom from responsibilities. Content to be dependent on others.

The "armored" men: Typically well-adjusted. Afraid of ageing. Tightly controlled emotionally. Compulsively active life-styles.

Unsuccessful

The "angry" men: Not well-adjusted. Openly and often aggressively bitter. Fearful of death. Easily frustrated and blame others for their failures.

The "self-haters": Self-blame for difficulties and failure. Demoralised by ageing. Characteristically depressed and death is seen as a release.

Personality Types, Life Satisfaction and Activity Levels in Later Life

1. Integrated Personalities

Characteristics: competent egos, intact cognitive abilities, high levels of life satisfaction and relatively complex inner lives.

The reorganisers. Highly active. New activities substituted for old. Involvement in a broad range of activities.

Focused people. Moderate level of activity. Selective about activities. Energy focused on one or two roles (e.g. husband, parent, volunteer).

The disengaged. Relatively low level of activity. Withdrawal into a contented and self-contained life.

2. The "armored-defended" Personalities

Characteristics: striving, achievement motivation, generally guarded emotions.

The "holding-on" pattern. High level of life satisfaction. High or medium level of activity. Life pattern and activities of middle aged "held-on" to as long as possible.

"Constricted" individuals. High or medium level of life satisfaction. Medium or low level of activity. Activities limited as a defense against perceived threat of ageing.

3. The "passive-dependent" Personalities

The succorance-seeking. Medium level of activity and life satisfaction. High dependency needs.

Apathetic people. Medium or low level of life satisfaction. Low level of activity. Characteristically passive and indifferent to surroundings.

4. Unintegrated Personalities

Characteristics: Poor control over emotions, deteriorated thought processes.

Disorganised persons. Low or at best medium, level of life satisfaction. Low level of activity.

Source: Schiamberg and Smith (1982:628); Turner and Helms (1979:438).

Self-esteem, or the way people regard themselves is probably the most important factor in overall happiness. Individuals are only able to organise their activities in a meaningful way when they perceive themselves as competent, self-regulating human beings - and are treated that way by others (Schiamberg and Smith 1982:626).

Like all aspects of personality the evaluation and measurement of self-concept, or self-esteem is, at best, an inexact and uncertain process. In addition many factors influence self-concept. These factors, which may act alone or in combination with each other, include: physical appearance, innate abilities, temperament, age, economic status, sex, marital status, race, intelligence level, state of health, employment, social environment and the perception of competence and of being in control of life (Bischof 1976:7; Turner and Helms 1979:429). Research on older adults also suggests that a positive sense of self-esteem is associated with making decisions for oneself (Langer and Rodin 1977:191).

Finally, as Aiken (1978:77) observes, reflected evaluations from significant people as well as successes and failures in dealing with the environment affect the manner in which individuals view themselves (Turner and Helms 1979:430).

The Ageing Process and Self-Esteem

According to Turner and Helms (1979:430) investigators do not agree about the effect of the ageing process on self-esteem. Some indicate that self-esteem reaches its peak during the middle years and then begins to taper off. Another view is that self-esteem increases with age provided the individual does not encounter disruptive life experiences such as death in the family; that standards of living are not below the level of aspiration; and that there is no fear of being alone or isolated. Yet others believe that fluctuations occur. The fluctuations reflect a conscious awareness of new life tasks that pose formidable challenges to the abilities of individuals. In the later years of life, the capacity of the individual to maintain a feeling of worth depends on the existence of a supportive social environment and the ability to integrate past life events.

Turner and Helms (1979:430) suggest, therefore, that self-esteem does not change simply as a function of ageing but rather continues to fluctuate in accordance with the personality of the individuals involved as well as the potential crises that confront them.

Self-Concept and Self-Esteem in Old Age

As people move into later adulthood self-concept tends to become much more dependent on inner thoughts and feelings than on external factors. According to Schiamberg and Smith (1982:630) and Craig (1983:503) this was a general trend found primarily in men in an American study. In this study forty-year old men were found to view their environment as within their control, rewarding boldness and risk taking and see themselves as possessing the energy equal to the challenges presented in the outer world. In contrast sixty-year old men viewed the environment as complex and dangerous, beyond their control and who see themselves as conforming to outer world demands. The change is referred to as change from active to passive mastery. As adults come to adopt passive mastery as a way of viewing the world, they move from an outer-world to an inner-world orientation. As their preoccupation with their inner world becomes greater their ability to relate emotionally to other people declines. Furthermore their ability to atribute activity and emotion to other people also declines.

There are, however, differences between the sexes. While older men move from an active involvement with the world to a more passive, self-centred positions, women seem to move in the opposite direction - from passive to active mastery. Thus, although women may become more instrumental, they may also become domineering and aggressive. A hypothesis to account for these changes has been proposed, namely, that both sexes are responding to liberation from the parental imperative: the social pressure for women to conform to nurturing roles and for men to be financially responsible and to suppress any conflicting traits. This hypothesis has been substantially verified by cross-cultural studies among Navahos, Maya and the Druses in Israel (Schiamberg and Smith 1982:631; Craig 1983:503).

Despite some general changes in self-concept and self-esteem, older adults still continue to see themselves as they have always been. Rather than there being dramatic changes in self-concept during older adulthood, there is stability throughout the adult years. Two reasons have been cited for this stability of self-concept: (a) older adults depend less on feedback from others and more on their own inner standards, and (b) older adults continue to think of themselves in terms of former roles despite changes. For example, an older person might continue to think of himself or herself as a plumber or an engineer

long after retirement. Thus older adults who perceive themselves as having done well in the past continue to think of themselves as doing well in later adulthood. The key to positive self-esteem in old age may in some cases reside in the past (Schiamberg and Smith 1982:631).

6.2. PRESENTATION OF FINDINGS

It has become clear that cognitive abilities change as people age. It is also clear that there is great variability in the degree of change. In addition, factors, such as education, hearing, eyesight, morale, illness and socio-economic status may impact on cognitive functioning at any point in time and may influence the actual extent of the change. Thus the findings presented in this section include those which show the cognitive state of the respondents, and the cognitive state by population group. Also included are the findings on hearing, eyesight, weight, co-operation and lucidity. The findings which show the relationship between cognitive state and hearing and eyesight are thus also presented.

Psychological well-being, or morale, is only one aspect of personality but is an integral component of health and well-being and of importance to a study such as this. It has become clear however, that well-being, like cognitive functioning, is influenced by a number of factors, including self-esteem, health, functional and socio-economic status as well as activity levels. Thus in addition to those findings which show the morale of the respondents, those which show the morale and population group are also included.

6.2.1. COGNITIVE STATE

According to Anthony et al (1982:400) a cut-off value of 23/24 has been recommended in most of the publications on the Mini-Mental State Examination (MMSE) where 0-23 indicates disturbance of cognition. In this study out of a total of 217 respondents who answered questions relating to the MMSE over half (56%) had total scores of 24 or below (Table 21). From Table 20 it is also seen that the majority had no difficulty responding to items 3 and 6, but found items 4 and 11 difficult.

TABLE 20: MMSE SCORES

Item	Question	Scores						
1.	**Orientation** What is the Year Season Date Day Month	0 N(%)	1 N(%)	2 N(%)	3 N(%)	4 N(%)	5 N(%)	Refused N(%)
		9(4.15)	14(6.45)	20(9.22)	22(10.14)	49(22.58)	103(47.46)	-
2.	Where are we? State/Country Province Town/City Hospital/Suburb Floor/Street	0 N(%)	1 N(%)	2 N(%)	3 N(%)	4 N(%)	5 N(%)	Refused N(%)
		9(4.15)	5(2.30)	14(6.45)	24(11.06)	43(19.82)	122(56.22)	-
3.	Name 3 objects	0 N(%)	1 N(%)	2 N(%)	3 N(%)	Refused N(%)		
		2(0.92)	-	2(0.92)	211(97.24)	2(0.92)		
4.	**Attention and Calculation** Spell WORLD/HERFS backwards	N N(%)	0 N(%)	5 N(%)	Refused N(%)			
		36(16.59)	110(50.69)	68(31.34)	3(1.38)			
5.	**Recall** Ask for names of objects from 3 above.	0 N(%)	1 N(%)	2 N(%)	3 N(%)	Refused N(%)		
		32(14.75)	15(6.91)	58(26.73)	109(50.23)	3(1.38)		
6.	Naming: Point to a pencil and watch.	0 N(%)	1 N(%)	2 N(%)	Refused N(%)			
		2(0.92)	13(6.00)	200(92.16)	2(0.92)			
7.	Repeat: Have patient repeat No ifs and or buts.	N N(%)	0 N(%)	1 N(%)	Refused N(%)			
		5(2.30)	76(35.02)	134(61.75)	2(0.92)			

8. Command:
Have patient follow a 3-step Command.

0 N(%)	1 N(%)	2 N(%)	3 N(%)	Refused N(%)
9(4.15)	32(14.75)	65(29.95)	107(49.31)	4(1.84)

9. Reading:
Read and obey.
"Close your eyes"

N N(%)	0 N(%)	1 N(%)	Refused N(%)
30(13.82)	43(19.82)	141(64.98)	3(1.38)

10. Writing:
Write a sentence

N N(%)	0 N(%)	1 N(%)	Refused N(%)
44(20.28)	72(33.18)	98(45.16)	3(1.38)

11. Copy the design.

N N(%)	0 N(%)	1 N(%)	Refused N(%)
37(17.05)	120(55.30)	56(25.81)	4(1.84)

0 N(%)	1 N(%)	Refused N(%)
46(21.20)	168(77.42)	3(1.38)
53(24.42)	161(74.20)	3(1.38)
25(11.52)	189(87.10)	3(1.38)

12. Counting Backwards

13. Sentence Construction

14. Copying Action of researcher

Total Sample = 217
Frequency Missing = 145

TABLE 21: MMSE TOTAL SCORES

Total Scores	N	%
00	3	1,38
01 - 04	2	0,92
05 - 08	3	1,38
09 - 12	6	2,76
13 - 16	26	11,98
17 - 20	40	18,43
21 - 24	43	19,82
25 - 28	34	15,67
29 - 32	44	20,28
33	16	7,37
Total	217	100,00

Frequency Missing = 145

(i) Cognitive State and Population Group

The findings of the MMSE total scores by population group presented in Table 22 show statistically significant differences. Compared to the blacks (68%) proportionately more coloureds/Asians (89%) and whites (88%) had average or above MMSE total scores (16-33).

TABLE 22: MMSE TOTAL SCORES BY POPULATION GROUP

Population Group	MMSE Scores 00 - 15 N	%	16 - 33 N	%	Total N	%
Black	12	5.53	25	11.52	37	17.05
Coloured/Asian	16	7.37	130	59.91	146	67.28
White	4	1.84	30	13.82	34	15.67
Total	32	14.75	185	85.25	217	100.00

Frequency missing = 145
P = 0,004

6.2.2. MORALE

Table 23 reflects the scores of individual items in the Philadelphia Geriatric Centre (PGC) Morale Scale and Table 24 the total scores. From these findings it is seen that on the day they were interviewed just under half (46%) of the 220 respondents had slightly above or below average (00-12) total scores and that most stated that as they get older they do not have so much pep (89%), are less useful (85%), find things are the same or worse than they expected (83%), and that people had it better in the old days (80%).

On a more positive note, the findings also show that on the day of the interview most respondents indicated that they see enough of their friends and relatives (94%), prefer to live where they are living (88%), seldom feel lonely (84%), were not afraid of a lot of things (84%), that they were satisfied with their life (79%), and that their health is the same or better than most people of their own age (77%).

TABLE 23: PGC MORALE SCALE SCORES

		Score					
		0		1		Refused to answer/ Don't know	
	Question	N	%	N	%	N	%
•	Do you feel that things keep getting worse as you get older?	145	65.91	74	33.64	1	0.45
•	Do you think you have as much pep as you had last year?	201	91.36	19	8.64	-	-
•	How much (often) do you feel lonely?	35	15.91	185	84.09	-	-
•	Do you find that little things bother you more this year?	86	39.10	133	60.45	1	0.45
•	Would you say you see enough of your friends and relatives?	13	5.91	206	93.64	1	0.45
•	Would you say that as you get older you are less useful?	187	85.00	31	14.09	2	0.91

	Question	Score 0 N	0 %	1 N	1 %	Refused to answer/ Don't know N	Refused to answer/ Don't know %
•	If you could live where you wanted, where would you live?	24	10.91	193	87.73	3	1.36
•	Do you find that sometimes you worry so much you cannot sleep?	56	25.45	162	73.64	2	0.91
•	Do you think that as you get older things are better, worse, or the same as you thought they would be?	178	80.91	36	16.36	6	2.73
•	Do you sometimes feel that life isn't worth living?	77	35.00	139	63.18	4	1.82
•	Do you feel as happy now as when you were younger?	95	43.18	122	55.45	3	1.36
•	Do you feel you have a lot to be sad about?	61	27.73	155	70.45	4	1.82
•	Would you say that people had it better in the old days?	169	76.82	41	18.64	10	4.55
•	Are you afraid of a lot of things?	32	14.55	184	83.63	4	1.82
•	Do you get mad more than you used to?	77	35.00	140	63.64	3	1.36
•	Do you think that life is hard for you most of the time?	57	29.90	158	71.82	5	2.27
•	How satisfied are you with you life today?	42	19.10	173	78.63	5	2.27
•	Do you find you take things hard?	75	34.09	141	64.09	4	1.82
•	Do you think a person has to live for today and not worry about tomorrow?	80	36.36	137	62.27	3	1.36
•	Would you say that your health is the same, better or worse than people of your own age?	41	18.64	170	77.27	9	4.09
•	Do you find you get upset easily?	101	45.91	115	52.27	4	1.82

N = 220
Frequency Missing = 14

TABLE 24: PGC MORALE SCALE TOTAL SCORES

Total Scores	N	%
00	-	-
01-04	7	3,18
05-08	32	14,55
09-12	62	28,18
13-16	93	42,27
17-20	26	11,82
21	-	-
Total	220	100,00

Frequency Missing = 142

(i) Morale and Population Group

Table 25 shows that more blacks (66%) than coloureds/Asians (22%) or whites (32%), had average or below (00-10) PGC Morale Scale total scores (low morale). This finding was statistically significant.

TABLE 25: PGC MORALE SCALE TOTAL SCORES BY POPULATION GROUP

	Morale Scores					
	0 - 10		11 - 21		Total	
Population Group	N	%	N	%	N	%
Black	25	11.36	13	5.91	38	17.28
Coloured/Asian	32	14.55	116	52.73	148	67.27
White	11	5.00	23	10.45	34	15.45
Total	68	30.91	152	69.09	220	100.00

Frequency Missing = 142
P = 0.0001

6.2.3. HEARING, EYESIGHT AND WEIGHT

The findings relating to the subjective evaluation of the hearing, eyesight and weight of 232 respondents show that (i) the hearing of 68 (29%) was impaired; (ii) the vision of 130

(56%) was impaired, even with the use of spectacles; and (iii) the weight of 79(34%) was normal, but that 44 (19%) were considered to be overweight, and 103 (44%) underweight.

(i) Hearing, Eyesight and Cognitive State

The visually and hearing impaired may have found it difficult to complete the MMSE. The relationship between the MMSE total scores and hearing and sight were examined but no significant relationship was found (Table 26). Over 80% of both the normal and impaired hearing respondents had MMSE total scores of average or above. A similar finding was evident in regard to eyesight.

TABLE 26: HEARING, EYESIGHT AND MMSE TOTAL SCORES

	MMSE Scores					
	00 - 15		16 - 33		Total	
	N	%	N	%	N	%
Hearing						
Normal	21	9.72	131	60.65	152	70.37
Impaired/Deaf	11	5.09	53	24.54	64	29.63
Total[1]	32	14.81	184	85.19	216	100.00
Eyesight						
Normal	12	5.56	85	39.35	97	44.91
Impaired/Blind	20	9.26	99	45.83	119	55.09
Total[2]	32	14.81	184	85.19	216	100.00

[1] Frequency Missing = 146
P = 0.524

[2] Frequency Missing = 146
P = 0.361

6.2.4. CO-OPERATION AND LUCIDITY

Apart from the 12 (5%) who were not co-operative, and 18 (8%) who were not lucid, the remainder of the 220 respondents were both co-operative and lucid.

6.3. DISCUSSION OF FINDINGS

In the review of literature section it was learnt that deterioration in central nervous system functioning in combination with other socio-economic and health factors increases the likelihood of cognitive impairment in later life.

Thus, the results presented in this chapter, showing a high degree of cognitive, hearing and sight impairment amongst the sample elderly are to be expected, as are those of other local and overseas studies of community and hospital populations of elderly (Padayachee 1989:133; Gillis and Elk 1981:148; Kafonek et al 1989:32; Ben-Arie et al 1983:1058; Omer et al 1983:267; Folstein et al 1985:21; Trichard et al 1982:624; Anthony et al 1982:402; Bess et al 1989:123).

Hearing loss causes difficulties in understanding verbal communications and for participating in normal conversations, while the person with a severe visual deficit may be disorientated and confused (Bess et al 1989:123; Hays and Borger 1985:1109). Earlier (p. 37) it was pointed out that visual and communication impairments may reduce the diagnostic validity of the Mini-Mental State Examination (MMSE). In this study no significant relationship was found between hearing and vision and the MMSE total scores. This does not, of course, preclude the possibility that hearing and visual impairments may have adversely affected responses to the MMSE.

The impact of education on cognitive functioning and performance on IQ tests was discussed on p. 93. On p. 37 it was suggested that illiteracy may have influenced the diagnostic validity of the MMSE. Other researchers have discussed the impact of education on performance of the MMSE. In the study by Anthony et al (1982:402) item analyses were carried out for all individuals judged by the psychiatrist to be free of delirium and dementia in order to determine whether illiteracy affected performance on particular MMSE items and in turn this could account for the low scores of subjects. When subjects were divided into those scoring the maximum number of points possible on an item and those scoring less than the maximum, statistically significant differences were found between the MMSE item scores of subjects in the two different educational

groups on the orientation to time, attention and calculation, recall and copy-design items. In all cases the worst performance was found amongst the less educated group.

In this study the findings also show that a large proportion of patients performed poorly, or did not perform at all on the orientation to time, attention and calculation, recall, and copy-design items as well as the writing item. Thus the finding of this study, that 56% of the respondents had total scores of 24 points or less, may well reflect the low educational levels of the sample population. As is shown later (p. 125) over two thirds of the sample had either no schooling or left school before, or on completion of Standard 5 or primary school. But while education may have influenced the above-mentioned responses it must always be borne in mind that the responses may simply reflect some of the changes associated with ageing.

Moreover, there are other factors which may well have influenced responses to some of the MMSE items, and in particular responses to items relating to orientation and attention and calculation. As Hays and Borger (1985:1109) point out, Monday is often no different from Sunday in an older person's daily routine. This is likely to be the case in this study. The findings show a large proportion of the sample have little or no contact with the wider community: 28% do not listen to the radio, or watch television; 54% either do not read, or read "infrequently"; and 49% seldom, or never leave, the home, even to go shopping. There is no reason, therefore, for the elderly to be oriented to date and time.

Attention and calculation ability is usually tested by asking patients to subtract serial sevens from 100, or in the case of this study, spelling "world" backwards. Hays and Borger (1985:1109) ask "how realistic this expectation is at any age. Serial threes and money exchange have been suggested as being more practical for the older client and less fatiguing." As they point out, and as has been noted, older people tire easily, are easily distracted by external stimuli thus find it difficult to perform tasks that require them to ignore irrelevent stimuli, and their mechanisms for processing stored information are not as efficient as younger persons.

In the literature review (p. 93) it was noted that socioeconomic factors may influence the extent of cognitive change associated with ageing. A number of studies have also demonstrated that there is relationship between scores on cognitive function tests and demographic factors (age, education, sex, intelligence, ethnic group and socioeconomic status) both in normal and psychiatric populations (Amante et al 1977:524; Jacobs et al 1977:40; Parsons and Prigatano 1978:608; Pfeiffer 1975:433; Prigatano and Parsons 1976:527). A study by Anthony et al (1982:402) also found a relationship between scores on the MMSE and age, sex and ethnic group. The findings of this study which show a significant difference between the population groups and the MMSE total scores is thus to be expected. A number of explanations could, of course, in part account for this finding including some already discussed such as relevance, education and, as noted on p. 36, language difficulties.

As regards the findings relating to morale, it is noteworthy that the majority (79%) of the respondents expressed satisfaction with their lives despite increasing dependence on others. However, Gillis (1989:114) points out that the statement "I am satisfied with my life" may mean different things to handicapped or disadvantaged persons. For instance, it could be an expression of resignation to unalterable circumstances, an indication of a generally compliant attitude to adversity, or simply relief at the prospect of leisure after a lifetime of menial work.

Nonetheless the evidence would suggest that most respondents are, in fact, satisfied with their lives. Over half (54%) the respondents had Philadelphia Geriatric Centre (PGC) Scale total scores of 13 or more, which indicates relatively high morale. This could mean that a large proportion of the elderly are able to resolve the psychosocial crisis of later life discussed on p. 95. It could also mean that the aged in this sample have been able to maintain a feeling of worth. However, it could also point to the possibility that subjective well-being scales measure a trait dimension. On p. 95 it was noted that there has been much discussion and considerable confusion in the literature as to what exactly is being measured by these scales. Clearly further research needs to be undertaken.

In this study the MMSE and PGC Morale Scale were used to provide a general overview of the cognitive functioning and morale of a population of elderly patients. However, it

has become clear that the diagnostic validity of these instruments would appear limited due to the complications of illiteracy, language barriers, cultural differences, and relevance.

Tests which assess cognitive functioning and morale have significant potential usefulness in a medical setting. They can be of significant service in the diagnosis and formulation of treatment for psychiatric and neurologic disturbance, psychosomatic disorders, chronic pain, sexual dysfunctions, and gastrointestinal problems. In the effort to gain an understanding of the total patient, it is important to clarify the effect of the physical condition on a person's psychological reactions, as well as the impact of psychological states on biological status. This orientation is particularly important in dealing with elderly patients because the interaction between the physical and psychological is exceedingly strong and significant (Granick 1983:729).

The integration of tests of morale and cognitive functioning into the comprehensive functional assessment also contributes to the production of a well-rounded diagnostic evaluation, which can lead to a realistic and efficient treatment plan. With the elderly physical status tends to have far-reaching effects on varied aspects of their psychological functioning and especially on their social and emotional reactions. Moreover, their emotional states, attitudes toward their symptoms, and motivations for dealing with their environment also exert great influence on the quality and degree of their biological responses to their medical conditions (Granick 1983:738).

Earlier (p. 39) it was noted that comprehensive assessment has other major purposes, including determining optimal placement, and the most appropriate use of services. Thus, in order to offset the pitfalls associated with inappropriate placement, it is clear that caution needs to be exercised in the use of tests such as the MMSE and PGC Morale Scale, particularly by persons not trained in the interpretation of the results and those without access to additional diagnostic facilties. Granick (1983:730) also stresses the importance of an accompanying manual which should include the rationale, purpose and method of selecting test items; directions for administration as well as directions on adaptation to possible visual and auditory limitations; instructions on how to organise scores and interpret test results with cautions against common possible misuse of the test.

CHAPTER 7

THE AGED IN SOCIETY

In this, and the following three chapters the focus is the social component of the biopsychosocial system. In this particular chapter the concern is with the status and role of the aged in society and with their use of free time. The position aged hold in society reflects the way they are viewed by that society, and influences the nature of the support they receive as well as the way in which the resources of the country are shared. Successful ageing has been correlated with satisfaction with leisure time and provides a useful indicator of personality.

The literature reviewed in this chapter pertains to the role and status of the aged in society, their retirement and their leisure activities. The findings presented and discussed show the education and occupational status of the sample population as well as their leisure activities.

7.1.1. THE ROLE AND STATUS OF THE AGED IN SOCIETY

The status and role of the aged in any society is, by and large, determined by lifestyle, custom and belief. However, South African society is not homogeneous. Some, and predominantly the whites, have become advanced and modernised. Others, primarily the blacks, still follow the traditional lifestyle of their forefathers. Yet, while others have become modernised to a greater or lesser extent they continue to uphold some traditional customs and beliefs. It is beyond the scope of this thesis to examine all situations in detail. In this section, therefore, there is a examination of the position of the elderly in a modern industrial society and in traditional African families. In addition the possible impact of religion on the process of modernisation is examined from a South African perspective.

(i) A Modern Industrial Society

Cowgill (1972:243) refers to the United States of America as the most modernised of all contemporary societies. In the absence of local literature this section summarises relevant features of his review of the role and status of the American aged.

While it is generally believed that the status of the aged is relatively low in the United States, few hard data support this view and the term "low" has not been delineated. Thus, at best, the role and status of the aged can be described as ambiguous. This is expected in a society in which social status in general is primarily determined by the occupation of the man. When a man retires, unless he has accepted a particularly prominent position, he severs his connection not only with an organisation, but with his status-identifying occupation. On retirement, therefore, men quickly pass into a class of persons without significant status of unknown occupation and uncertain achievement. However, a few retired persons achieve the roles of "elder statesmen" usually associated with rare individual endowment. Although in the past parentage was important, in modern America it is secondary to occupation in terms of status value. The same applies to wealth despite the fact that it is much touted in a materialistic society.

For women, it is widowhood which provides discontinuity of status. As the occupational role of the husband is the primary determinant of the status of the family within the community, with his passing the widow looses her status. There are other events or conditions which may over a period of time contribute either to ambiguity or loss of status. Drastically curtailed income may dictate a change of style of life. Failing health may have the same effect. There is also the impact of education. Most of the American populace are literate and they are orientated towards schools and libraries as the fonts of knowledge and wisdom. The rapid change of technology has left most of the older people far behind in terms of practical knowledge. The prime values are on what is "the newest" and the "latest" not upon what is the oldest or the most time-tested.

Despite this, the folkways of the society provide for special consideration of, and kindness toward older people. Furthermore, for many individuals who have been active in church affairs in their younger years, disengagement from occupational and other roles is compensated for by an intensification of their roles in the church. Within the church

older people may retain positions of leadership and prominence to the extent that they come to characterise these organisations.

(ii) Traditional African Family Life

Consanguinal bonds and the family play an important role in the social organisation of the traditional african society. Under these circumstances the aged take on an important role. (Cilliers 1976:1113). Hunter (1967:9) comments that conservative tendencies in African society are strong. Power is in the hands of the elders, and piety demands that there should be no departure from the ways of the ancestors, who by reason of their age must know better than their children. She also notes that the ancestor cult is a sanction for the respect for seniors upon which the social and political system is based.

Dubazana (1989:37) has observed that the elderly are relieved of some duties. They are not compelled to work hard because it is felt they have already done their share for the survival of the family. Nevertheless they contribute actively by taking responsibility for the livestock and children while the mothers cultivate the land. They play an important role in the transmission of customs, traditions, practices, beliefs and conviction from one generation to another within and outside the family circle. They participate in religious rites. Usually old men officiate at sacrificial offerings, made either as thanksgiving for prosperity, medicine and magic, or to ward off evil. The elderly male also plays an important role in the affairs of the tribe or nation: they settle disputes and assist the king or headman and his councillors in reaching policy decisions on all matters.

(iii) Modernisation and Modernity and the Role of Religion in South Africa

Bengston et al (1975:689) describe modernisation as a societal or macro-social process resulting from various societal processes of urbanisation, literacy, social mobility, mass media communication, a mature industrial plant and a democratic polity. They refer to modernity as "properties of individuals within societies regardless of the degree of modernisation of those societies."

These authors comment that the status of the aged declines with societal modernisation. But, while they note that there are findings which support this hypothesis, nonetheless they also point to criticisms. The most serious criticism is that much of the previous

research testing the modernisation and ageing hypothesis may be questioned on the basis of "ecological fallacy". This refers to the error of insufficiently separating various levels of analysis: the societal (or macro-social) and the individual (micro-social) level of observation. Their own research conducted in six "developing" nations appears to support this criticism. They found that although there was a inverse relationship between modernisation and status of the aged, yet at the same time there was no such association between individual modernity and attitudes toward the aged.

Although research of this nature has not been undertaken in South Africa the position is likely to be similar. For example, writers such as Dubazana (1989:38), Tshabalala (1986:77), Chinkanda (1989:144), Schoombee and Mantzaris (1985:63; 1986:19), when referring specifically to the South African blacks and Indians, claim that the modernisation process, has brought about changes in the role of the aged, their attitudes towards the aged and the type of care they should receive. Nevertheless their research shows that the aged are still respected and seen to have a meaningful role to play.

Commenting on the position relating to the Indian aged, Mantzaris (1988:116) suggests that religion has played an important role in maintaining their traditional ties. As Schoombee and Mantzaris (1989:172) point out, respect, love and affection of young people towards their parents in all walks of life are an integral component of the three major religions to which members of the Indian community belong, namely, Christianity, Hinduism and Islam.

This is likely to be the case amongst all population groups in South Africa to a greater or lesser extent. 80% of all South Africans profess to be Christian, and as noted earlier (p. 35), some whites are of Jewish descent, while the Malays are predominantly moslem (Bureau for Information 1989:64). Traditionally amongst all of these groups, as well as amongst the Chinese and traditional Africans, as discussed above, the elderly are highly respected and revered. They have an important role to play as teachers and counsellors and their wise counsel, based on long experience, is valued (Lang 1968:26; Schlesinger 1971:6; Schoombee and Mantzaris 1989:168; Mantzaris 1988:112; Holy Bible: Leviticus 19:32, Job 12:12)

The possibility thus exists that despite the modernisation process, the traditional role and, in particular the status, of the South African elderly is likely to remain relatively intact. This can be attributed to the existence of strong family and religious bonds upon which South African family life has been shaped through many generations.

7.1.2. RETIREMENT: A SOCIAL ASPECT OF AGEING

Rip (1979:2) defines retirement as the termination of gainful work - that is, of activities to obtain wealth, profit, or other social rewards. There are two reasons why people work: to stay alive, that is, to pay for food, clothing, and shelter and to maintain physical and mental health; and to maintain society. If no-one worked to produce goods, services, and foodstuff, the human world would cease to exist. Work is a major socialising force in giving form and content to adult life (Bischof 1976:213).

In traditional and agrarian societies man had no definite hours of work and free time. People worked all day in their homes and on the fields and each member of the extended family contributed in some way to the support of the family as a whole until old age and/or ill-health made this impossible. With few exceptions there were no commercially organised recreations to draw workers away from home and family. Occasional respite from work was found in social rituals, festivals and family celebrations in which everyone participated, but there was little time or opportunity for the common man to enjoy freedom from necessity and self-cultivation for its own sake (Gerdes 1988:258).

Retirement is thus a relatively recent phenomenon. It is a consequence of complex industrialisation. It is a custom which to a large extent has become institutionalised in modern urban industrialised societies. It is based on the presumption that new generations must succeed the old, that chronological age is correlated with diminished capabilities to perform work tasks, and more recently that it is a reward. It has only arisen on a large scale in societies with production levels high enough for the econonomy to support non-workers (Cowgill 1972:10; Cowgill and Holmes 1972:322; Rip 1979:1).

(i) Adaptation to Retirement

Retirement has been identified as a very stressful life event, which intensifies the need for adaptive responses on the part of the individual. It is ranked tenth of the Social Readjustment Rating Scale, which assesses the stress potential of various events typically encountered over the course of life (Holmes and Rahe 1967:213).

There are a number of reasons for this. Work provides far more than mere financial security for the majority. While individual cultures may differ in the extent to which they emphasize the values of the outcomes of work, in most cultures work has much greater significance than merely obtaining an income. Occupational status is a major source of identity, both within the work setting and in the non-work domain. From this comes self-image, self-respect, a feeling of making a useful contribution and a place in the social system, which determines the nature of relations with others. To withdraw the central life role is, therefore, critical for the majority, since it cannot be replaced in leisure because leisure lacks social value. The retiree moves to a "roleless role", lacking in cultural value and any real role specifications. This is perhaps why retirement has been described as a "socially debilitating loss", a "degrading withdrawal of all legitimate identity" (McGoldrick 1989:91).

It cannot be assumed that retirement is always a stressful life event. McGoldrick (1989:112) notes that existing evidence suggests that there is no direct association between retirement and either physical or mental health decline. Response to voluntary early retirement schemes in particular suggests that it can hold attractions for those employees who feel that their circumstances are adequate for retiring and who hold positive perceptions of post-retirement opportunities. In fact, it can represent a strategic response to stresses experienced in later working years and increasing difficulties in coping with the modern industrial environment.

According to Howard et al (1982:488), who have reviewed a wide variety of research findings, approximately 30% of retirees encounter adjustment dificulties: 7% because of problems connected with missing their jobs, and 23% because of problems stemming from the conditions surround retirement.

Howard et al (1982:488) have examined findings showing variables associated with successful adaptation. They grouped them into three categories: work-related, sociopsychologic and resource-related as follows:

Work-related variables: successful adaptation was found to occur more often when the person facing retirement made the decision about whether and when to retire, and when the person had the appropriate ability to adapt. The necessary interpersonal skills were most likely to be learned in occupations at the middle-status level.

Sociopsychologic variables: successful adaptation was found to depend on personality characteristics such as flexibility and farsightedness. Successful adaptation experiences in the past were also more likely to lead to greater success in adapting to retirement: persons with positive attitudes towards retirement were more likely to adapt well. Planning for retirement, and taking part in pre-retirement counselling was also associated with successful adaptation, as was an understanding of the importance of leisure roles.

Resource-related variables: here successful retirement was found to be more likely amongst retired persons who believed that their income was adequate, and amongst persons of a higher socio-economic status. It was also found to be more successful when support groups existed to ease the transition and provided role identifications and finally, amongst persons who perceived that they were in good health.

(ii) Retirement in South Africa

In general retirement is equated with old age. However, as Gerdes et al (1988:408) points out this is not wholly correct. Although retirement in South Africa most often occurs at age 60 for women, and 65 for men, many people retire before this age. Others return to work or change to part-time or flexitime work. Some people, for example housewives, are never officially employed and therefore cannot "retire". Finally, for some there is no formal retirement. As indicated (p. 49) a large proportion of the population still live in rural areas, sustained by a traditional, agricultural, and subsistence economy. In such communities older persons perform fewer exacting tasks.

Research would suggest that in South Africa few persons plan for retirement. Gerdes et al (1988:413) refers to an Interdepartmental Inquiry conducted in 1976 in South Africa by the Department of Social Welfare and Pensions which found that only 1,5% of a sample of 600 retirees had attended courses on retirement planning. She notes that another local study conducted in 1975 indicated that there was some reluctance on the part of those under 55 years of age to think seriously about their retirement. Staff were also generally slow to acquaint themselves with the retirement policy of the organisation.

The position may change, albeit slowly. A number of large organisations are now offering courses to help employees plan for, and enjoy retirement. Several Retirement Associations are also running courses to increase understanding and promote adjustment through positive attitudes and constructive action with regard to future goals (Meiring 1990:371; Gerdes et al 1988:411).

7.1.3. LEISURE ACTIVITIES IN LATER LIFE

Gerdes et al (1988:257) has examined leisure comprehensively from a variety of angles. This section draws heavily on her findings.

Leisure is often equated with "free" or "empty" time. A Chinese philosopher likened it to the empty space between the furnishings of a room, which has no utility but makes the room more habitable. This would suggest that leisure is the opposite of work thus if persons are not working they are at leisure. This is not necessarily true. An individual who is not working may be lying in hospital, or standing in a queue at the supermarket.

In the opinion of Gerdes, leisure should be seen as a free-time activity that is freely chosen by the individual as an end in itself, without regard for its value for survival or for obligations to others. Individuals are at leisure only if they are deriving pleasure from the activity.

(i) Personal Factors

The choice of leisure activities is affected by personal factors such as personal attributes, needs, interests and values. People are more likely to enjoy those leisure activities which

enhance their personal attributes and self-concept. Individuals are also more likely to enjoy leisure that enables satisfaction of dominant needs. For example people with a strong need for affiliation are likely to choose social activities; those with a strong need for success, competitive games; while those with a strong need to avoid failure will avoid activities that involve competition.

Individual interests also determine the type of activity chosen. People who gain the most from their leisure activity may chose their leisure autonomously, not merely to be in style. To them leisure means an opportunity for challenge and new experience. Among those shown to be less satisfied with their use of free time are individuals with a narrow range of interests and who lack autonomy and creativity. Finally, satisfaction or dissatisfaction may be spread across several areas of life, suggesting a more generalised attitude.

(ii) Influences to Participation

Leisure is also limited or affected to some extent by external influences such as the availability of opportunity, economic considerations, the fashions and norms of subculture, culturally prescribed age roles, roles within the family and society and the nature of the occupation of the individual. However, even when there is little choice of what to do in leisure, there is a choice regarding how to do it. Moreover, industries are providing an ever-increasing range of leisure goods and entertainments. Nevertheless, some writers, for example, Dumazedier (1967) fear that increasing free time will merely create a society of passive individuals no longer grateful for a chance to rest from their labours and bored and sated with having nothing worthwhile to do. De Grazia (1962) also believes that the optimal use of leisure is beyond the capacity of most people.

Although vast enterprises have sprung up to cater for leisure-time activities, these pursuits have one thing in common: they cost a good deal of money. The findings of a study by Feigenbaum (1977:353) show that upper middle class people tend to choose community-centred leisure, whereas those from lower class, middle and working class homes were more likely to spend their leisure at home. However, for some, home-centred leisure was a matter of convenience rather than preference, because they had young children and little freedom for activity outside the home. Age is also a factor: some of the more

strenuous leisure time pursuits become too arduous with ageing and have to be replaced by gentler, less strenuous activities.

(iii) The Leisure Activities of Older Persons

The free time or non-work of the retired person is described as leisure. As noted above, some older people are prevented from enjoying leisure by ill-health or financial problems. Others exhaust their time and energy on attending to the necessities of daily living. This particularly applies to the elderly who take longer than younger people to perform the routine physical tasks of daily life. The awareness of having a great deal of time to spare also makes them more inclined to linger over, or to expand each task. Furthermore as people develop and their personal characteristics stabilise they tend to use their leisure consistently. According to Havighurst (1962:903) the use of free time remains relatively stable from about 40 to 65-70 years of age. Late in life, loss of stamina reduces activity levels. Ill-health may also lead to more passive leisure activities although a dynamic attitude may still be retained. With further loss of energy, there may be passivity on both dimensions.

7.2. PRESENTATION OF FINDINGS

The evidence presented in the last section would suggest that the status and role of the South African aged is somewhat ambiguous. While retirement tends to engender a negative view of the aged by society at large, religious activity and traditional and family ties ensure that older people continue to be respected within their own communities.

With retirement from work older people are likely to have a great deal of free time at their disposal. However, leisure is limited or affected by a wide range of external and internal factors. Activity levels also have an impact on health and well-being. Assessment of leisure activities is thus central to holistic understanding of the aged and the ageing process.

The findings presented and discussed in this chapter include those which show the educational and occupational status of the sample elderly, as well as their leisure activities. In addition findings which show the correlations between the total scores of the physical self maintenance (PSM), instrumental activities of daily living (IADL), Philadelphia Geriatric Centre (PGC) Scales and Mini-Mental State Examination (MMSE) are presented and discussed.

7.2.1. EDUCATION

From Table 27 it is seen that out of the 236 patients who responded to the question relating to the level of education attained, over two-thirds (69%) had either no schooling or left school before, or on completion of Standard 5 or primary school.

The higher diplomas of the 9 respondents included: nursing (3), engineering (3), accountancy (1), theology (1), and typing (1).

TABLE 27: EDUCATIONAL LEVELS

Level of Education	N	%
No Schooling	37	15,68
Attended Primary School	89	37,71
Completed Primary School/Standard 5	37	15,68
Attended High School	61	25,85
Completed High School/Standard 10	3	1,27
Higher Diploma	9	3,81
Degree	-	-
Total	236	100,00

Frequency Missing = 126

7.2.2. OCCUPATIONAL STATUS

Three (1%) out of 240 respondents were working at the time of the interview. Two were employed in regular, full-time jobs and one on a casual, part-time basis. Two were unskilled workers and one skilled.

Classification of the main occupations of the patients during their working-life was non-specific. The findings presented in Table 28 show that pre-retirement almost two-thirds (64%) of the 244 respondents had worked mainly in unskilled positions. Since only 27 (11%) of the 206 female respondents were housewives only it is clear that most must have been employed at some stage before retirement.

TABLE 28: MAIN OCCUPATION DURING WORKING LIFE

Occupation	N	%
Unskilled (e.g. labourer, domestic)	153	63,75
Semi-skilled (e.g. machinist, clerk)	27	11,25
Skilled (e.g. bricklayer, typist)	23	9,58
Professional/Managerial	10	4,17
Housewife only	27	11,25
Total	240	100,00

Frequency Missing = 122

7.2.3. LEISURE ACTIVITIES

Although total scores were recorded for the 245 patients who responded to questions relating to their participation in leisure activites not all patients responded to every question. The findings are presented in Tables 29 and 30. Further analysis indicates that of the respondents:

- The majority (74%) had below average total scores (00-16).
- While three per cent had no **visitors**, almost a third (32%) received visits daily from friends, relatives and members of their church.

- Most (95%) were members of a **religious organisation**, although a large proportion (23%) never attended a religious service. This does not mean, however, that they were not practising. Moslem women do not attend services in the mosque and bedridden patients may have been visited by their priests for the purpose of communion and prayers.

- **Television and/or radio** was the most popular pastime with almost three-quarters (72%) watching t.v. or listening to the radio at least once a week.

- Almost a third (27%) never **went out** of the home. A further 31% seldom went out, or went out once or twice a month.

- Almost a third (31%) claimed they read **newspapers or books** daily.

- Over ten per cent (15%) claimed they had a **hobby**. Most (80%) of this group were female. Knitting was the most popular female hobby, then sewing and lastly, crocheting. Some of the women stated they had more than one hobby. Male hobbies were more varied and included: art, cooking, fishing, film-making, woodwork/handcraft, engineering work, draughting, and farming. The "farmer" lived on a small-holding and grew his own vegetables.

- Eleven per cent claimed to be members of a **social club or group**. Most (7%) claimed they participated in club or group activities on a weekly basis. However, a large proportion of this group lived in old age homes or protected housing for senior citizens.

- Eleven per cent exercised or participated in an outside **physical activity**. Fifty-three per cent were male. Walking was the most popular activity, followed by gardening, carpet bowls or bowls, darts.

- Eleven per cent played **cards and other games**.

TABLE 29: LEISURE ACTIVITIES SCALE SCORES

	Participation Rate											
	Often		Frequently		Fairly Frequently		Seldom		No Participation		No Response	
Activity	N	%	N	%	N	%	N	%	N	%	N	%
Radio/TV	148	60.41	28	11.43	-	-	40	16.33	28	11.43	1	0.41
Visitors	78	31.84	112	45.71	23	9.39	23	9.39	8	3.27	1	0.41
Reading	76	31.02	35	14.29	4	1.63	31	12.65	97	39.59	2	0.82
Religion	68	27.75	18	7.35	88	35.92	56	22.86	13	5.31	2	0.82
Outings	22	8.98	80	32.65	22	8.98	54	22.04	67	27.35	-	-
Hobbies	18	7.35	18	7.35	4	1.63	19	7.75	185	75.51	1	0.41
Clubs	18	7.35	-	-	6	2.45	3	1.22	216	88.16	2	0.82
Exercise	8	3.27	13	5.31	3	1.22	4	1.63	217	88.57	-	-
Cards/ Games	4	1.63	10	4.08	3	1.22	9	3.67	218	88.98	1	0.41

Total N = 245 Frequency Missing = 117

TABLE 30: LEISURE ACTIVITIES SCALE TOTAL SCORES

Total Scores	N	%
00 - 04	6	2,45
05 - 08	48	19,60
09 - 12	69	28,16
13 - 16	58	23,67
17 - 20	36	14,69
21 - 24	16	6,53
25 - 28	10	4,08
29 - 32	2	0,82
33 - 36	-	-
Total	245	100,00

Frequency Missing = 117

(i) Leisure Activities and Education

Elderly persons do not always have the opportunity, facilities, and/or capabilities to fill time. The findings show that proportionately activity levels increased with the level of education attained (Table 31). The percentages are: no schooling (nil), attended primary school (7%), completed primary school or Std. 5 (19%), attended high school (26%), completed high school or Std. 10 (33%) and higher diploma (78%). Moreover, for those with a higher diploma over half (56%) had a hobby, while almost half (44%) were involved in some form of exercise/outdoor activity.

TABLE 31: LEISURE ACTIVITIES SCALE TOTAL SCORES AND LEVEL OF EDUCATION

	Leisure Activities Total Scores					
	00-18		19-36		Total	
Level of Education	N	%	N	%	N	%
No schooling	37	15,68	-	-	37	15,68
Attended Primary School	83	35,17	6	2,54	89	37,71
Completed Primary School/Std 5	30	12,71	7	2,97	37	15,68
Attended High School	45	19,07	16	6,78	61	25,85
Completed High School/Std 10	2	0,85	1	0,42	3	1,27
Higher Diploma	2	0,85	7	2,97	9	3,81
Total	199	84,32	37	15,68	236	100,00

Frequency Missing = 126

7.2.4. PHYSICAL SELF MAINTENANCE ACTIVITIES, INSTRUMENTAL ACTIVITIES OF DAILY LIVING, LEISURE ACTIVITIES, MORALE AND COGNITIVE STATE

The findings which show the correlations between the PSM, IADL, Leisure Activites, PGC Morale Scales, and the MMSE total scores are presented in Table 32. Of note is the strong positive association (0,7) between the PSM and IADL total scores.

TABLE 32: PSM, IADL, LEISURE ACTIVITIES, PGC MORALE SCALE AND MMSE TOTAL SCORES

	PSM	IADL	Leisure	Morale	MMSE
PSM	*9.34	#0.70	-0.47	-0.17	-0.51
	5.11	0.0001	0.0001	0.0079	0.0001
	244	244	244	220	217
IADL		19.81	-0.61	-0.23	-0.54
		7.26	0.0001	0.0006	0.0001
		245	245	220	217
Leisure			13.23	0.27	0.55
			5.88	0.0001	0.0001
			245	220	217
Morale				12.32	0.25
				3.95	0.0002
				220	217
MMSE					23.00
					7.39
					217

* Diagonal of table includes mean, standard deviation, N
\# Off diagonal includes correlation coefficients, p-value, N

7.3. DISCUSSION

The findings show that only three respondents were working at the time of the interview. Similar findings were shown in a study by Elk et al (1983:1018). None of these findings are surprising in view of the fact that this is an urban population and retirement most

often occurs at age 60 for women, and 65 for men. In addition in this study respondents were by and large poorly educated, worked in unskilled, or semi-skilled positions which tend to be poorly paid, thus as discussed in the next chapter (p. 133) most would qualify for a state pension.

It has become clear that there is inter-relationship between morale, physical functioning, cognitive status and activities in later life. Associations between the total scores of the PGC scale, IADL scale, MMSE and PGC Morale Scale have been shown in this study. Moreover there does apear to be some consistency in the configuration of personality types in relation to activity levels and those discussed on p. 99. In this study a small proportion (11%) of the elderly had above average leisure activity total scores (high activity) but by far the largest proportion (over 54%) had high morale total scores. For the most part, therefore, the sample population thus present as "integrated" or "armored-defended". This adds further weight to the suggestion made in the last chapter (p. 112) that most are reconciled to the ageing process.

The findings show that the most common leisure-time pastimes include membership of a religious organisation, having visitors, listening to the radio and watching television. These are worthy of comment.

Previously (p. 120) it was noted that on retirement persons move into a "roleless role", which lacks cultural value and any real role specification. It was also noted (p. 116) that disengagement from occupational and other roles is compensated for by an intensification of their roles in the church. In the United States of America, Kivett (1979:106) and Kivett et al (1977:203) found that indices of mental well-being such as happiness, feelings of usefulness, and personal adjustment increase with religious activity and interests in middle and later life. Although in this study such an association was not examined, the possibility that religious involvement may have contributed to the relatively high morale of the sample population cannot be ruled out.

Apart from religious activity, the most common pastimes were home-based. Earlier (p. 120), it was noted that lower class, middle class and working class people were more likely to spend their leisure-time at home. On the basis of their occupational status it is

clear that most of the sample could be considered middle, lower or working class. As most leisure-time pursuits cost money it is possible that economic constraints may deter active participation in pursuits outside the home.

On the other hand there is a strong possibility that there may be environmental constraints as well. Economic underdevelopment is a characteristic of the majority, and developing sector, of the population in South Africa and likely to be a characteristic of the majority of this study. Cilliers (1989:10) points out that persons who live in economically under-developed areas in South Africa face physical problems including: shanty towns and tenement slums, inadequate urban services, such as housing, water supply, sewage, utilities and transport, uncontrolled land use; excessive population densities, deficient educational and recreational facilities, inefficient commercial and marketing services and a deteriorating urban environment. They also face social problems such as high crime rates, lack of community structure, and violence. If these factors are added to the findings that 34% of the sample are dependent on public transport (bus, train or taxi) and 71% have no telephone in the home it is hardly surprising that home based activities are the most common.

There again, the choice of leisure activities may simply reflect the health status of the sample population. A survey conducted in the United States of America by Jeffers and Nichols (1961:67) asked older people for reasons for not taking up new hobbies or interests. Fifty-five per cent referred to their physical capacities. Moreover, over half of this group stated that health and/or afflictions were responsible. After reviewing the findings of their own study of community volunteers the researchers speculated as follows:

(i) Physical disability may operate on activities and attitudes by tending to disqualify a person for certain activities, as in the case of a serious arthritic not being able to continue to play golf. However, disability does not act indiscriminately: locomotor activities for instance, are cut off more quickly than the passive and more sedentary varieties.

(ii) If earning capacity is reduced by disability certain activities, such as travel, membership of expensive clubs and the like - would need to be curtailed because of financial factors.

(iii) The discomfort of incapacity may be so depressing in itself as to limit the older person's activities, thus affecting both motivation and general attitudes quite severely. When an individual's physical functional capacity is handicapped, his

> family and friends may tend to be over-protective and fearful, again depressing his attitudes, motivation and activities unless there is a strong compensating factor of resistance and determination.

The findings do suggest that most of the sample were functionally impaired, thus it is possible that health and disability status affected choice of leisure activities. One way to minimise this situation, however, would be to encourage older persons to engage in regular physical activity. As the findings of this study show, this is not a common pastime. The value of regular physical activity in relation to the risk of mortality and to physiological, psychological, and social variables in the elderly is well documented (Kaplan and Haan 1989:37; Gordon et al 1983:169). Physical exercise also has a salutary effect on health and disease states such as obesity, depression, diabetes, arthritis, hypertension, coronary heart disease, migraine, smoking cessation. In the words of Bortz (1980:49) "Use favours function. Disuse invites decay".

CHAPTER 8

THE ECONOMIC AND HOUSING SITUATIONS OF THE ELDERLY

Information about the economic position and housing situations of the elderly within the context of society is integral to holistic understanding of an aged population and the ageing process. Such an understanding is also of necessity when planning appropriate and cost effective services. As Klopper et al (1990:223) point out any service to be planned must pay attention to "priority setting", or "deciding **who** is to get **what** at **whose expense**". This is particularly important when plans involve an older population as they require a wide range of different kinds of care, and there are no clear-cut boundaries between types of care (e.g. acute versus long-term) and settings (e.g. community versus institutional). Furthermore, any service to be developed will require financing. An examination of the economic situation of the elderly in the context of society is thus required to determine who will bear the expense of the service. An examination of the housing situations and living arrangements of elderly people is also required to ensure that the service provided is appropriate to the needs of the elderly and their families.

In the literature review section of this chapter there is an examination of the economic position of the South African aged, their families and South African society. There is also examination of the three different types of housing and their advantages and disadvantages. The findings presented and discussed relate to the financial position and living arrangements of the sample population of elderly.

8.1. REVIEW OF LITERATURE

8.1.1. THE ECONOMICS OF AGEING

In this section there is consideration of the sources from which the South African aged derive their income, family support, the current economic position in South Africa and finally the economic future of the aged.

(i) Financial Provision in Old Age

In Chapter 7 it was established that in South Africa retirement from work is an aspect of ageing. Financial provision for old age can be made in a number of ways, including: private savings, insurance, retirement annuities and occupational pension funds. However, for those South Africans unable to make adequate financial provision state assistance is available.

From Table 3 (p. 45) it is calculated that in 1985 the number of persons aged 65 and over in South Africa, including the TVBC states amounted to: Asians, 24 724; blacks, 814 380; coloureds, 103 285; and whites, 384 888. After allowing for the time difference and the fact that women can apply for pensions at age 60, some of the elderly may still be working, their applications were being processed, and that there are other types of state pensions, for example, war veteran's pensions, it is clear from Table 33 below most Asians, blacks, and coloureds, are in receipt of a state pension.

The President's Council (1988:45) report that 60% of whites are making financial provision for their old age. But while many do make provision, many find their incomes inadequate in real terms to provide either their previously enjoyed standards of living or to combat the devastating effects of inflation which came close to 20% in the mid 1980's (Thomas 1989:4).

TABLE 33: STATE OLD AGE PENSIONS, 1986

Population Group	Number in Thousands
Asians	24 010
Blacks	727 823
Coloureds	102 188
Whites	143 150
Total	997 171

Source: President's Council (1988:47)

A number of factors account for this. Employee attitudes have changed over the past two decades and it is no longer common to find employees staying with one employer for an entire working life. Job-hopping is also more common and statistics reveal that people going on pension have on average 15 years service with their final employer. Benefits derived from a company pension fund are usually determined by the number of years service. Most pension funds provide 2% of final average salary for each year of service. Where a man retires at the age of 60 after 20 years of service he will suffer a 60% decrease in income and overnight an annual salary of R50 000 becomes a mere R20 000 of pension. Where this is a fixed income and not inflation proof, his income will be down to 20% in real value after a further six years (using a conservative 12% inflation rate). Moreover the majority of existing participant pension schemes have no provision for inflation. Even if they do they are well below the actual rate of inflation (Cape Times 1988:9; President's Council 1988:59).

Although many people save, many withdraw their savings before they reach old age. For example, over the eleven years, 1970-1980, South Africans (largely white) paid into their pension funds annuities totalling R1.31 billion. Over the same period they withdrew R1.16 billion (Wilson and Ramphele 1989:342).

The reasons why people withdraw their pensions are varied. Some people withdraw them in order simply to make ends meet. Others change jobs. Almost half of the existing pension funds have no policy regarding the transfer of fund membership. When employees leave before retirement, they are paid out, resulting in beneficiaries

prematurely spending their pension monies. Also employees often purposely resign so as to obtain their pension fund contributions. Finally, although employers frequently contribute to their employees' pension funds, employees only benefit from these contributions after a certain number of years. If they leave before time they forfeit their employers' contributions (Wilson and Ramphele 1989:342; President's Council 1988:59).

State Assistance

To qualify for state assistance women must be aged 60 and men, 65. Then there is a means test. A certain amount of "free income" is allowed which does not affect the amount of pension that is awarded. Thereafter, pensions are assessed on an individual basis according to the nature, and amount of the claimant's income. Although now no longer applicable, at the time of the study there were also residential qualifications. Applicants had to be resident in the area where the application was made. An exception was that black residents of the Homelands who had lived in the Republic for a period of five years immediately preceding the date of the application were eligible to apply for a pension in the area where they were residing.

The state pension is low. The amount payable also depends on the race of the applicant. Blacks receive the lowest amount, whites the highest. Calculations show that maximum state old-age pensions paid to blacks rose in real (1980) terms from R14 per month in 1970 to R45 in 1983, an increase of 221 per cent. White pensions increased by 40 per cent in real terms, from R97 to R136 over the same period. In recent years the gap has closed and there is wide acceptance of the principle of parity (Wilson and Ramphele 1988:64; President's Council 1988:49).

Benefits of Regular Income

Despite the impoverishment of the majority of the aged, for many, and particularly those sustained by an agriculturally-based subsistence economy, the state pension, however, small, may be the first regular income they have ever known, and may have positive benefits to the whole family, and not just the direct recipient. In a table on sources of income for Transkei rural households in 1982 it was shown that for those with an annual income of less than R1 500 (i.e. less than R125 per month), 66-71% came from remittances sent by migrants working away from home, 14-19% from pensions; 11-15%

from wages in local jobs; and only 2-3% from home production. The pensions of women seem particularly important. A study in Nkandla in Kwa-Zulu in 1983 found that pensions constituted 54% of the financial contribution of all women to households, double the equivalent percentage for contributions by the whole community, men and women taken together (Wilson and Ramphele 1988:63,181).

(ii) Family Support

It has never been the intention of the state to cover the full financial requirements of social pensioners (President's Council 1988:44). Thus, if pensioners cannot supplement their income they must look to their families for support. However, families are often not able to support their elderly for two reasons: unemployment and poverty.

Unemployment

In 1989 it was estimated that 2,3 million persons were unemployed, representing 16,4% of the labour force. Another 4,2 million, or 30% of the labour force were underemployed and/or substantially involved in the informal sector. These figures may not be completely accurate because of factors such as the actual population and the undernumeration of current official employment statistics. Unemployment is also increasing by 32 000 to 140 000 annually (Thomas 1990:251).

Poverty

One of the accepted ways to determine the extent of poverty in a country is to examine how many people live below the minimum living level in that country.

Nel (1989:44) discusses the minimum living levels in South Africa. He cautions on the use of these levels, stating that there is no such thing as a general or universal minimum living level. In a community a minimum living level varies from one household to another, depending on its size, age structure of its members and their sex composition. Determining the needs of families is thus subjective and is governed by the customs and standards of each community and the general state of the economy.

In South Africa minimum living standards are calculated by two organisations - the Bureau of Market Research of the University of South Africa (Unisa) and the Institute

for Planning Research of the University of Port Elizabeth (UPE). Of the two minimum standards used by the Bureau, the Minimum Living Level (MLL) denotes the minimum financial requirements of members of a family if they are to maintain their health, have sufficient clothing, and have acceptable standards of hygiene for their needs.

TABLE 34: PERCENTAGE OF POPULATION BELOW THE MINIMUM LIVING LEVEL BY POPULATION GROUP AND AREA, 1985

	Population Group %				
Area	Asian	Black	Coloured	White	% of Grand Total
Urban	8,3	32,1	23,0	1,6	21,0
Rural	45,0	68,9	45,0	2,0	64,5
Total % Below	10,6	52,1	27,9	1,6	38,9

Adapted from Nel (1989:51)

From Table 34 it can be seen that a large proportion of the population were living below the MLL in 1985. Furthermore, as Thomas (1989:2) suggests, poverty and deprivation seem to have increased in South Africa over the past decade. Proof is seen in declining real incomes in rural communities, the expansion of poorly housed urban squatter communities, and the inadequacy of social pensions relative to the basic needs of (black) pensioners.

(iii) Economic Situation in South Africa

In South Africa, the economic security of the elderly, both now and in the future, rests largely on the economic efficacy of the working population. The economic efficacy of a population depends to a large extent on the relationship between economic growth and the demographic profile of a population. As Palmer and Gould (1986:368) state "growth over the long term is determined by two factors: increases in the effective size of the labour force (including both changes in the number of workers and in average hours worked) and increases in the output per person-hour of work ("productivity")." But, because even a slight increase in the size of the population could increase the labour force and produce a jump in the GNP without anyone becoming better off as a result, of interest is not the size of the work force per se, but its size relative to the **total** population.

Age-Dependency Ratio

Dependency ratios are designed to measure the ratio of the economically dependent members of society to the economically productive members (people in the work force). There are two basic types of dependency ratios: age-dependency and economic-dependency (Hendricks and Hendricks 1986:43).

TABLE 35: PERCENTAGE AGE DISTRIBUTION OF THE SOUTH AFRICAN POPULATION, 1985 AND 2000

Population Group	Year	Age 0-14	Age 15-64	Age 65+	Dependency Ratio*
Asians	1985	33,0	64,2	2,8	55,8
	2000	26,9	68,6	4,5	45,8
Blacks	1985	43,8	53,2	3,0	88,0
	2000	42,5	54,3	3,1	84,0
Coloureds	1985	35,4	61.1	3,5	63,7
	2000	31,4	64,6	4,0	54,8
Whites	1985	24,9	66,7	8,4	49,9
	2000	20,8	70,0	9,6	43,4

$$^{*}\text{Dependency Ratio} = \frac{\text{Population aged 0 - 11 and 65+}}{\text{Population 15 - 64 years}} \times 100$$

Age-dependency ratios relate the number of people of dependent ages to the number of people of productive ages and are designed to show how the age composition contributes to econonomic dependency in a given population. Nonetheless, Hendricks and Hendricks (1986:44) point out that there are a number of conceptual problems with age-dependency ratios because a considerable number of those counted within the dependent age categories may actually be working, and many of those within the productive age group, because of disability or unemployment, may not. Neither do they take into account whether persons are employed full- or part-time, the number of weeks worked in a year, or the contribution to the economy by the informal sector, homemakers, volunteer workers and those who are economically independent. Nor do the ratios consider changing rates of women in the labour force. In South Africa the dependent population

can be calculated as including young people under fifteen and those over sixty-five. From Table 35 it can be seen that the dependency ratio of elderly is increasing but that it is offset by the falling child-dependency ratio. Although it would seem that some of the needs for increased funding for the elderly could be counterbalanced by decreased need for funding the young this is not the case when the prevailing economic situation in South Africa is taken into account.

Economic Growth

The Economist (1989:79) writes "an ageing economy needs growth even more than a youthful one, because as the old-age dependency ratio increases, each worker has to share the value of his output with more elderly people."

Wolfgang Thomas (1989:1) dicusses the economic crisis currently facing South Africa. He attributes this to the following factors:

- a low economic growth of about 2,5 per cent of South Africa's real Gross Domestic Product over the past 10-12 years
- high population growth
- escalating urbanisation
- poverty and lack of basic need satisfaction
- deficiencies of the social infrastructure
- high and rising unemployment
- turmoil in black education
- exodus of skilled labour
- shortage of entrepreneurs
- poor management and bureaucratic structures
- capital shortage
- reluctance to undertake growth inducing investments
- stagnation of specific sectors
- obstacles to the export potential
- limitations of import substitution
- labour unrest and low productivity
- balance of payments disequilibria
- budget deficits and high taxation
- high and persistent inflation
- high income and wealth inequalities
- increasing concentration of economic "power"
- political uncertainty and instability

The indications, however, point to a slow improvement in the prevailing economic situation. The high net growth rates of the population have come down with increasing

urbanisation, higher literacy, rising living standards and declining mortality rates. Improvements have occurred as a result of free and compulsory schooling and improved facilities, the mushrooming of in-service, informal and formal training programmes and facilities, and rapid growth and opportunities for black advancement and participation. Positive steps are also underway in the areas of distribution, effective mobilisation and setting of priorities relating to the capital market, while positive impulses have been created for subsectoral growth and development. Finally, the erosion of the apartheid system has led to a decline in the inter-racial income gap, the granting of blacks trade union rights, the ending of wage discrimination in the public sector, the introduction of "social responsibility" programmes by large firms; considerable vertical ccupational mobility of blacks, coloureds and Asians, and finally the development of an increasingly urbanised and sophisticated consumer society (Wilson and Ramphele 1989:143, 146; S A Institute of Race Relations 1989:260; Thomas 1989:6; Kane-Berman 1989:373; Maasdorp 1990:188).

(iv) Economic Future of the Aged

Any service to be developed for the aged will have to be innovative and inexpensive as it would appear that, at the present the elderly, their families and the taxpayer are strapped financially. But although this position is unlikely to change in the immediate future positive changes have occurred.

Ways to address the situation have been proposed. The President's Council (1988:44) are of the opinion that it is a sine qua non that individuals in a country like South Africa should retain the primary obligation to provide for their old age, and that a national, compulsory and contributory pension scheme should be developed and implemented. The prime objective of such a scheme would be to guarantee a minimum pension and to ensure full transferability should persons change employment. Lawton (1989:17) also refers to the need for a national pension scheme. But, as he points out, it may require an element of compulsion to keep pension payments in the system. He is of the opinion that employers should contribute, and that government should bear the brunt of the hostility that would undoubtedly accompany the institution of an obligatory, portable and non-withdrawable pension fund. He also points out, that at present a major proportion of the black population, and women in particular, spends a lifetime without cash wages,

women being selectively deprived in this way. This means that the welfare pension would have to remain as a safety net.

Keeping old people economically productive has also been proposed (Economist 1989:17; Economist 1989:21; Morrison 1986:362). It is based on the premise that this would simultaneously increase the number of workers and cut the number of jobless old people who need to be supported. Two ways to achieve this goal have been suggested. First to provide a pension scheme which everyone is entitled to as a right, but has built in incentives so that healthier old people remain in the job market. The second, although similar, is to restructure pension pension programmes to encourage more flexible work patterns, including delayed retirement and return to work, even in a part-time capacity, after retirement.

A further proposal put forward is that children should be encouraged to care for their parents at home by subsidising them in the form of tax deductions, and to give permission for the erection of "granny flats" on their premises (President's Council 1988: 64).

8.1.2. THE HOUSING AND LIVING ARRANGEMENTS OF AGED PERSONS

Aside from the spouse, it has been agreed that housing is probably the single most important element in the life of an older person. This is because it is more than just a place to live: it can facilitiate and stimulate fuller, more meaningful lives and encourage the continuing development of aged people as useful contributing members of society. Furthermore, for those elderly who find their health is deteriorating, familiarity with, and the felt predictability of the known environment, becomes an aid to continuing independence (Eales 1980:128).

Living arrangements are also important elements in the life of the older person. They are critical factors in fostering a sense of security throughout life. Although no hard and fast connections can be drawn between residential patterns, family relationships, and satisfaction in later life, some relatively clear indications exist to show they are often associated. The social activities of older adults are also largely determined by

neighbourhood location. Accessibility of family, friends and social facilities depend upon neighbourhood location (Hendricks and Hendricks 1986:255; Tamir 1979:123).

Estimates by the South African National Council for the Aged show that of the 17% of white aged who live in a "protected" environment 8 to 11% live in true institutions. Amongst the other population groups 5% of coloured, 0,9% of Asian and 0,6% of black aged live in institutions (Lawton 1989:14).

The reasons for the above distribution will be discussed in Chapter 9 (p. 173). In this section the concern is with the three major types of housing, mainstream community housing, age-segregated housing, and institutional care and the advantages and disadvantages of each.

As noted three types of housing have been selected for review in this thesis, namely: (i) mainstream community housing; (ii) age-segregated housing, and (iii) institutional care.

(i) Mainstream Community Housing

It would appear from the above that mainstream community housing accommodates the majority of the elderly. In the United States of America evidence would suggest that in general, older people care well for their homes and live in housing of relatively good quality as compared to non-aged people of similar income. They move far less often than do young adults. Two reasons are given for why they move: push and pull. Some important pushes are poor health, fears about security, or negative changes in the neighbourhood. Pull reasons include the search for improved housing, for an interesting geographic location, or for an increased level of social stimulation. However, when there are few alternatives, such as lack of funds, older adults convince themselves and others that they really want to stay put (Tamir 1979:123; Lawton 1989:10).

Those elderly adults who do move more often tend to display rather specific characteristics, including marital separation, low income, less education, good health, a history of mobility, and a tendency to rent. On the other hand, many aged persons resist making a move because of the network of friendships built within the neighbourhood. This network provides a valuable resource. When older adults actually do decide to

move, it is often because of unhappiness with their neighbourhood and home (Lawton 1989:9; Tamir 1979:123).

In modern societies, such as North America and northern European countries a large proportion of elderly persons live alone. While they do so in preference to living with someone there may be problems as they become increasingly dependent. Some of these include increasing loneliness and isolation, inadequate support during illness, and inadequate nutrition. Eating is, for most people, a social activity with the meal as a meeting. In some people the physiological hunger drives are insufficiently strong to overcome the loss of appetite resulting from isolation. There may also be little incentive to prepare a proper meal (Troll 1978:91). Finally, older persons often forget to take adequate safety precautions despite their increased vulnerability, and there are increasing reports of muggings, robberies and assaults against the elderly in their own homes (Schuurmans-Stekhoven 1990; 65).

A large proportion of the South African population cannot be described as modern. Elsewhere (p. Appendix 3 - 11) they were described as a traditional but developing, third world population. Although this has led to highly disruptive structural changes nonetheless, research indicates that the multigenerational family, with a woman at the head, is still the largest type of family unit amongst the less developed sector of the population (Maforah 1987:262; Steyn and Rip 1968:499; Eales 1980:140; Cilliers 1976:1113; Millar 1982:6; President's Council 1988:74).

Housing Conditions of the Less Developed Sector of the Population

Drawing heavily on the second Carnegie Inquiry Wilson and Ramphele (1989:124) discuss the overcrowding and inadequacy of housing conditions of the less developed sector of the population. Of note is the extent of overcrowding which is overwhelming, particularly in urban areas. In some areas an average of three people in every room has been recorded, while in others up to three families occupy one room. Other reports suggest that up to 6,5 persons may share a bed. The negative aspect of overcrowding is also discussed. Some of these include the absence of privacy, the lack of space for children to play, the impossibility of having visitors, the lack of respect between family members when the mother, the father and the children are all sleeping together, and the noise.

This situation has largely arisen as a result of the housing shortage, which estimates show to be between 1,2 - 2 million units (S A Institute of Race Relations 1990:100). This has led to a mushrooming of squatter shacks over the past ten years. But, even if houses were available, a large proportion of black households, in particular, would not be able to afford to pay rent, even if it is subsidised.

Widespread inadequate housing conditions exist in both rural and urban communities. Many of the houses are badly designed and constructed. For example in the Cape Flats, with its high water-table rising damp is a common problem. In addition with asbestos cement roofs and lack of ceilings, the houses are very cold in winter and like ovens in the summer with mean internal temperatures ranging from 4,2°C to 43,1°C. In the squatter areas particularly, sewage and drainage is non-existant, the roads are in poor condition and the removal of garbage inadequate. Finally, basic facilities like post-offices, public telephones and libraries, as well as recreational amenities such as swimming baths, halls, children's playgrounds and sportsfields are not provided.

The absence of adequate facilities is compounded by the fact that state planning has decreed that they be sited far from city centres and the public amenities which are situated closer to the wealthier parts of the city. Poor and expensive transport then hampers access to public spaces like parks, beaches, and mountains.

Elder Abuse

A possible consequence of poverty, overcrowding, and the increasing dependency of the aged is elder abuse. In the USA there is evidence to suggest it occurs with a rate and frequency only slightly less than child abuse (Bookin and Dunkle 1985:3).

Like other types of family violence, abuse of the elderly is not limited to a single act or behaviour and is difficult to define. However, five general themes have been identified by health care providers (Phillips and Rempusheski 1986:134). First, there is the abusive act, categorised either as an act of commission or omission. Acts of commission are generally described as elder abuse and acts of omission, elder neglect. Secondly there is the situation. An act is more likely to be defined abusive if the situation is considered good, less likely if it is rated tolerable or bad. Then there is the amount of effort

expended by the caregiver. If caregivers do not try, the situation is termed abuse or neglect. However, if caregivers are perceived to be doing their best, this represents another type of bad situation. Fourthly, there is the relationship between the caregiver and health care worker. If the caregiver is perceived as co-operative, an act may not be defined as abusive. Finally, there is the reason given to explain the act.

Two primary types of elder abuse have been identified by Steuer and Austin (1980:372). The first, physical abuse, may take the form of pushing and shoving and can lead to falls, fractures and bruises. As the elderly are prone to falls and old bones tend to break easily this type of abuse is difficult to detect. Inadequate feeding, and misuse of medication, such as over-sedation and the stopping of drugs, are other forms of physical abuse. The most common form is that of neglect and covers leaving nonambulatory persons unattended for long periods, which may result in ulcers, infections and vermin infestation.

The second type is verbal/psychologic abuse. This occurs on a more subtle level but is not necessarily less damaging than physical abuse. Infantilisation, denigration, threats of institutionalisation, of abandonment and of homicide all come under this heading.

The Burden of Care

Increasing attention is being paid to the burden imposed on those families who care for frail and elderly relatives (Bowling 1984:435; Kapust 1982:79; Kirschner 1979:209; Marples 1986:490; Miller 1981:420; Montgomery 1989:209; Pratt et al 1986:119; Poulshock and Deimling 1984:230; Shaw 1987:406; Steuer and Austin 1985:374).

The burden of care has been found to lead to financial difficulties, role adjustment and strain, physical health deterioration and a disruption of daily routine. The caregiver may have to forfeit social relationships, entertainment, and even work, in order to provide care. Caregiving may not always be provided by an affectionate family member or one with whom the elder has had a good relationship. Caregiving may lead to frustration, resentment and hositility on the part of the carer. It may reactivate old conflicts or lead to new ones. There is often inability on the part of the carer to accept the decline and dependency of the aged person. Finally, family caregivers may experience the pain of seeing a relative slowly deteriorate with virtually no hope of improvement.

(ii) Age-Segregated Housing

Age-segregated housing includes amenity housing adapted to the needs of the elderly but without the provision of a "warden", or an emergency call system; and sheltered housing, including specially designated and adapted housing within the community where a warden service and communication system is provided (Eales 1980:133).

Most elderly adults prefer not to live in age-segregated housing units. However, findings suggest that those who do move to this type of housing are satisfied with their decision, make friends easily, adapt well, show increased neighbourhood mobility, and have a high morale, regardless of their level of activity. Improved physical and mental health and decreased requests for medical care have also been noted. These positive effects are not short-lived, they continue over the period of residence (Tamir 1979:125).

The housing arrangement older adults select influences their social life and sense of well-being. Personality is, however, an intervening factor: different types of people select different types of housing arrangements. One study, for example, found that those elderly who applied for residence in a high-rise public housing project for the aged, saw themselves as middle-aged, although they were 72 years and above. Their income was low but they felt a strong personal need to live an independent life, and were dissatisfied with their social lives in their previous neighbourhoods (Tamir 1979:125).

Disadvantages of Age-segregated Housing

A problem with age-segregated housing is that neither people nor environments remain the same. A perfect match at the beginning of a move to an ideally-selected housing type may turn into a gross mismatch if declining health makes a resident unable to shop, cook or clean house in the usual manner. Purpose-built housing in all industrialised countries is thus facing the "ageing-in-place" phenomenon. In discussing this problem Lawton (1989:12) points out that creative ideas are needed regarding: first, how to plan for such change when designing new planned housing, and second, how to accommodate existing housing to such changed needs. Such accommodation may require physical changes, such as the addition of a common dining room, or a nurse's office. It may require the mobilisation of community services, rather than having housing-provided services that must be purchased by everyone who lives in such housing. He comments that this

element of compulsion is too often the case in congregate housing. Being forced to use a service when it is not needed is likely to precipitate unnecessary dependency.

There are other disadvantages. Findings of a study by Siegel (1985:235) show that help in long illness is severely handicapped by age homogeneity when the older people are disabled, over seventy-five, or have multiple resource deficits. The reasons are clear: when their health fails and increasing help is needed over a long period of time this requires great long-term commitment. This is best provided by kin with deep ties and commitments to each other. The kinship system is also large. For instance, the system not only includes children, but also siblings, cousins, and grandchildren.

(iii) Institutional Care

As their physical and mental faculties decline, many elderly persons have to consider a move to long-term care institutions such as homes for the aged, nursing, homes and mental hospitals.

Problems with Institutionalisation

A move to a long-term care institution obviously involves a drastic change in lifestyle. Tamir (1979:12) notes that there is an increased death rate the first year of relocation, especially within the first three months. Survival is most likely among the elderly who are angry and demanding.

Brody (1977:84) discusses the impact of relocation. She refers to studies which shown the existence of a phenomenon called the "relocation effect" - ie the negative impact, of moving the aged to a new environment. It appears that the relocation effect cannot be attributed globally to a change in environment per se. The most vulnerable are the physically ill, the depressed, confused, and disorientated, and those who are moved involuntarily. She points out that the moves are often frenetic and chaotic; older persons are seldom involved in the decision-making process, nor are their preferences considered. Orderly assessment seldom takes place, and when it does, tends to focus on physical functioning to the exclusion of psycho-social needs. Options are conspicuously scant and there is generally a lack of careful consideration of even these. Also placement decisions

may be determined not by suitability for the individual but according to availability and financial status of the person concerned.

The difficulties and obstacles facing nursing home residents are discussed by Cook (1981:420). She points out that only a small percentage of nursing home residents are so severely disabled that they merely require fulfilment of the basic physiological requirements. The majority still have other needs, such as to be loved and to express love for others. However, on admission to an institution the elderly are physically separated from family, friends, neighbours, community support systems, and possibly pets. Regular visits by family members may be difficult if the institution is inconveniently located. Former friends, many of whom are also likely to be elderly, may not visit, or visit infrequently.

In the institution few opportunities normally exist for the establishment of meaningful relationships between staff and residents due to factors such as a high staff turnover. Residents may also be reluctant to make emotional investments because of previously experienced losses. There is often a lack of privacy and taboos against touching and displaying sexuality. Finally, removal from a familiar physical environment and routine can be as traumatic as the loss of a significant relationship. Daily routines such as walking to the park and greeting the postman give another dimension of meaning to life and a sense of belonging.

8.2. PRESENTATION OF FINDINGS

In the first part of literature review above, it was learnt that most South African aged do not make financial provision for their retirement thus depend on state assistance, which is low. Due, however, to the impoverishment of their families and the economic crisis facing South Africa it is unlikely that large funds will be made available to meet any service which may be considered necessary and needs to be taken into account in the planning stages.

The second part of the literature review examined the housing situations of elderly people in general. Of note is the fact that in South Africa more whites than any other population group live in institutions or age-segregated housing units. Also of note is the fact that by far the largest sector of the South African population are not only inadequately housed but that their environments lack basic facilities and they live some distance away from public amenities.

With these facts in mind attention now turns to the financial position and housing and environments of the sample population.

8.2.1. FINANCIAL POSITION

Findings presented and discussed in this section cover the monthly income of respondents, sources of this income, other sources of family income, additional financial or material aid, and membership of a medical aid society. Possible differences between population groups in regard to the monthly income are examined as well as the possibility that the monthly income may impact upon leisure activities and morale.

(i) Monthly Income and Population Group

Table 36 shows the monthly income of the 353 respondents, while the financial position of the 10 respondents with a monthly income of R99 or less is summarised below. It is clear from this summary that seven, and possibly nine, respondents, had no personal income. However, it is also clear that only one household was, at the time of the interview, without an income.

- The one white, female patient had a small income from investments. Her husband received a private pension.
- One black female had no income recorded in the folder. She had died before the interview and no details were available.
- Two black males and one female had no income despite the fact that they were well over 65 and had lived in Cape Town for over 10 years. However, they lived with children who were employed and received additional support from other children.
- One black male had no income recorded in the folder and was untraceable.

- One coloured female with no income stated that she did not want to apply for a state pension because she had married, and was living as, a black. Her children, one with whom she lived, were happy to support her.

- One coloured male with no income had just turned 65 and was awaiting receipt of a state pension. He lived with his wife who had no income.

- Two coloured females had no income but did not qualify for state pensions due to the size of their husbands' pension. They also lived with children with incomes.

TABLE 36: MONTHLY INCOME BY POPULATION GROUP

	Monthly Income													
	0-R99		R100-R199		R200-R299		R300-R449		R450-R899		R900+		Total	
Population Group	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Black	5	1.42	49	13.88	3	0.85	2	0.57	2	0.57	-	-	61	17.29
Coloured/ Asian	4	1.13	12	3.40	203	57.51	7	1.98	5	1.42	2	0.57	233	66.01
White	1	0.28	-	-	29	8.22	6	1.70	11	3.11	12	3.40	59	16.71
Total	10	2.83	61	17.28	235	66.57	15	4.25	18	5.10	14	3.97	353	100.00

Frequency Missing = 9

(ii) Sources of Income

Of the 352 respondents, 291 (82%) were in receipt of a state pension. Other sources of income included: civil pension (23), private pension (14), investments (13), "other" (8). The "other" sources covered: maintenance grants (3), employment (2), child (1), British state pension (1) and Zimbabwe state pension (1). Five persons received an income from more than one source, two of these received maintenance grants and state pensions.

(iii) State Pensions by Population Group

Of the 291 (82%) respondents in receipt of a state pension, 52 (93%) were black, 210 (92%) coloured/Asian and 29 (54%) white.

(iv) State Pensions and Monthly Income

A means test is used to determine whether or not a person qualifies for a state pension. In this study of the 291 respondents who received state pensions, only six were recorded as having a total monthly income of between R300 - R899, which was above that paid, even to whites, by the state during the time of the interviews.

(v) Monthly Income and Leisure Activities

It has been noted (p. 123) that involvement in leisure activities is to some extent determined by economic considerations. In this study of the respondents with leisure activity total scores of average or below (low levels of activity) there were proportionately more with monthly incomes of R299 or less (89%) than those with monthly incomes of between R300-R449 (60%), R450-R899 (54%) or R900 and over (33%) (Table 37).

TABLE 37: MONTHLY INCOME AND LEISURE ACTIVITIES SCALE TOTAL SCORES

	Total Scores					
	00-18		19-36		Total	
Monthly Income (R)	N	%	N	%	N	%
00-299	191	78,28	27	11,06	218	89,34
300-449	6	2,46	4	1,64	10	4,10
450-899	7	2,87	6	2,46	13	5,33
900 and over	1	0,41	2	0,82	3	1,23
Total	205	84,02	39	15,98	244	100,00

Frequency Missing = 118

(vi) Monthly Income, Morale, and Population Group

Links between successful ageing and socioeconomic status have been noted on p. 97. The findings presented in Table 38 show no significant relationship between the total scores for the PGC Morale Scale and the different population groups and the monthly income of the respondents. However more coloureds/Asians (78%) and whites (68%) in all income categories had total morale scores of average or above (high activity levels). Amongst blacks this only applied to those with monthly incomes of R300 or more, for most (89%) of those with monthly incomes R299 or less had total morale scores of average or below (low activity levels).

TABLE 38: MONTHLY INCOME, POPULATION GROUP AND PGC MORALE SCALE TOTAL SCORES

	MONTHLY INCOME													
	0-R99		R100-R199		R200-R299		R300-R449		R450-R899		R900+		Total	
Morale Scores & Population Group	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Black														
0-10	3	7.89	17	44.74	3	7.89	1	2.63	1	2.63	-	-	25	65.79
11-21	-	-	11	28.95	-	-	1	2.63	1	2.63	-	-	13	34.21
Total[1]	3	7.89	28	73.69	3	7.89	2	5.26	2	5.26	-	-	38	100.00
Coloured/Asian														
0-10	1	0.68	1	0.68	29	19.59	1	0.68	-	-	-	-	32	21.62
11-21	2	1.35	9	6.08	100	67.57	2	1.35	3	2.03	-	-	116	78.38
Total[2]	3	2.03	10	6.76	129	87.16	3	2.03	3	2.03	-	-	148	100.00
White														
0-10	-	-	-	-	5	14.71	1	2.94	4	11.76	1	2.94	11	32.35
11-21	1	2.94	-	-	14	41.18	2	5.88	4	11.76	2	5.88	23	67.65
Total[3]	1	2.94	-	-	19	55.89	3	8.82	8	23.52	3	8.82	34	100.00

[1] Frequency Missing = 25
P = 0.422

[2] Frequency Missing = 89
P = 0.705

[3] Frequency Missing = 28
P = 0.748

Total in Sample = 220
Frequency Missing = 142

(vii) Other Sources of Family Income

Two hundred and eleven (86%) of the 244 responses to the question "Does anyone else have an income in the home?" were in the affirmative. The sources of this income included: children (143); spouse (62); relatives (17); hostel/institution (15); other persons (12).

The findings also show that 151 (91%) coloureds/Asians, 29 (78%) whites and 31 (76%) blacks had another source of income in the home.

(viii) Additional Financial or Material Aid

Sixty-five (27%) of the 239 respondents replied they received additional financial or material aid from sources outside the home. Other children (60) were the most common source of this aid, followed by other relatives (11), friends (1) and the church (1).

No differences between the population groups existed.

(ix) Membership of a Medical Aid Society

Thirteen (5%) of the 259 respondents stated they belonged to a Medical Aid society.

8.2.2. HOUSING AND ENVIRONMENT

In this section the findings presented and discussed include: (i) type of dwelling, (ii) amenities in the home, (iii) living arrangements, (iv) number of rooms and people in the home, (v) sharing of bedroom and bed, (vi) safety, (vii) proximity to shops, transport and medical services, (viii) responsibilities in the home, (ix) handicap amongst family members, (x) medical treatment amongst family members, (xi) alcohol and drug usage and (xii) family transport.

Due to the likelihood of marked differences between the different population groups in this section the findings are presented according to the different population groups.

(i) Type of Dwelling

TABLE 39: TYPE OF DWELLING

	DWELLING																			
	House				Flat				Room		Shack		Senior Citizen Unit				Other		Total	
	Owned		Rented		Owned		Rented						Protected		Home					
Population Group	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Black	6	1.96	36	11.76	-	-	-	-	2	0.65	7	2.29	-	-	-	-	6	1.96	57	18.63
Coloured/ Asian	125	40.85	56	18.30	-	-	16	5.23	-	-	1	0.33	1	0.33	6	1.96	1	0.33	206	67.32
White	11	3.59	7	2.29	1	0.33	4	1.31	1	0.33	-	-	7	2.29	8	2.61	4	1.31	43	14.05
Total	142	46.41	99	32.35	1	0.33	20	6.54	3	0.98	8	2.61	8	2.61	14	4.58	11	3.59	306	100.00

Frequency Missing = 56

Table 39 depicts the type of dwelling by population group of the 306 respondents. These findings show that proportionately more coloureds/Asians (87%) and blacks (74%) than whites (41%) lived in a house. However, proportionately more whites (35%) than blacks (nil) or coloureds/Asians (3%) lived in senior citizen housing units or old age homes.

Of the 11 (4%) respondents who lived in "other" dwellings, six were blacks who lived in single quarters, one was a coloured who was an in-patient at a psychiatric hospital, while four were white: two of whom were in-patients at a psychiatric hospital, one lived in a residential hotel and one, a woman, had no fixed abode. This was despite the fact that she received a British state pension and had a large savings account.

(ii) Amenities in the Home

A total of 306 persons responded to questions relating to the amenities in the home. The findings summarised below show that proportionately more blacks live without amenities such as electricity, inside toilet, and running water inside the home.

- 30 (10%) respondents had no **electricity** in the home. Twenty-four (42%) were black, 1 (2%) white and 5 (2%) coloured/Asian.

- 65 (21%) respondents had no **toilet** inside the home. Three used the pail system, and 1 had no toilet. Forty-two (74%) were black, 20 (10%) coloured/Asian, and 3 (7%) white.

- 19 (6%) respondents had no **tap** inside the home. Fifteen (26%) were black, 1 (2%) white, and 3 (1%) coloured/Asian.

- 35 (11%) respondents had no **refrigerator** in the home. Twenty-five (44%) were black, 9 (4%) coloured/Asian and 1 (2%) white.

- 34 (11%) had no **gas/electric stove** in the home. Twenty-four (42%) were black, 3 (7%) white and 7 (3%) coloured/Asian.

- 22 (7%) had to climb **outside stairs** to enter the home. Four (10%) were white, 17 (8%) coloured/Asian and 1 (2%) black.

- 24 (8%) lived in homes with **inside stairs** and no lift. Seven (17%) were white, 15 (7%) coloured/Asian and 2 (4%) black.

Amenities in the Home and High PSM Scores

One out of the 30 respondents showing a high degree of dependency as regards physical self maintenance activities (average or above total PSM scores) did not answer questions relating to the amenities in the home. The findings show that of the remaining 29:

- 18 shared a room
- 7 shared a bed
- 5 had to use an outside toilet
- 1 lived in a home with no inside tap
- 28 had no electricity in the home
- 27 had no refrigerator
- 27 had no gas/electric stove
- 2 had to climb outside stairs to reach the home
- 3 lived in homes with inside stairs

(iii) Living Arrangements

Twelve (4%) out of 307 respondents stated they lived alone. Four (9%) were white, 7 (3%) coloured/Asian, and 1 (2%) black. The remaining 295 respondents lived with one or more of the following:

- 204 (69%) lived with **children.** One hundred and fifty-three (77%) were coloured/Asian, 42 (14%) black, and 9 (23%) white.

- 99 (34%) lived with a **spouse.** This comprised about a third of each population group.

- 29 (10%) lived with **other relatives.** Eight (14%) were black, 20 (11%) coloured/Asian, and 1 (3%) white.

- 14 (5%) lived in an **Old Age Home.** Eight (20%) were white, and 6 (3%) coloured/Asian.

- 12 (4%) lived with **friends.** This applied to around five per cent of each population group.

- 10 (4%) lived with "**others**". The "others" included: other psychiatric hospital in-patients (3), single quarter residents (3), a domestic (2), residential hotel residents (1) and unknown (1). Five (9%) were black, 3 (8%) white, and 4 (2%) coloured/Asian.

- 8 (3%) lived in **boarding house arrangements.** Three (5%) were black, 2 (5%) white, and 7 (4%) coloured/Asian.

- 3 (1%) lived in **housing units for senior citizens.** All three were white.

Living with Someone and High IADL Scores

The IADL scale total scores of 244 respondents were examined to see how many showing a high degree of dependency on others as regards the instrumental activities of daily living lived alone. The findings show that of the 11 (5%) who lived alone, only 3 had total scores of average or above (high degree of dependency.

(iv) Number of Rooms and People in Home

Those elderly who were living in Old Age Homes, institutions, hotels, or single quarters were not asked questions relating to number of rooms and people in the home.

When asked "How many rooms are there in the home?" only rooms other than the kitchen and bathroom were counted. Structures or rooms on the property but not connected to the dwelling were also excluded.

The findings showing the number of rooms, adults and children under eighteen per respondent are presented in Table 40. Although presented together they should be examined separately.

TABLE 40: NUMBER OF ROOMS, ADULTS (18+) AND CHILDREN IN HOME

	Rooms		Adults (18+)		Children	
Number	N	%	N	%	N	%
00	-	-	-	-	96	41,20
01	18	7,73	14	6,01	35	15,02
02	22	9,44	42	18,03	44	18,88
03	87	37,34	67	28,76	31	13,30
04	78	33,48	44	18,88	11	4,72
05	15	6,44	33	14,16	10	4,29
06	9	3,86	21	9,01	2	0,86
07+	4	1,72	12	5,15	4	1,72

Total in Sample = 233

Frequency Missing = 129

Differences were apparent between the population groups. The main trends of these findings and those presented in Table 40 are summarised below:

- Most respondents lived in two or three bedroomed homes. While the overall average was 3,41 rooms per respondent, the average for coloureds/Asians was 3,55, whites 3,29, and blacks 2,52.

- Most respondents lived with two to three other adults. An overall average of 3,67 adults (including respondents) per home was recorded. However, the average for coloureds/Asians was 3,9, blacks 3,7, and whites 2,5.

- Most respondents lived in homes where there was at least one child. An overall average of 1,55 children per home was recorded. However, the average for blacks was 2,2 and coloureds/Asians 1,6. Only one white lived in a home with a child.

(v) Sharing of Bedroom and/or Bed

A total of 245 responses were recorded relating to questions relating to whether, and with whom they shared a bedroom and a bed. From the findings it would appear that 157 (64%) patients shared a room and 79 (32%) a bed.

Mostly those respondents who shared a **bedroom**, shared it with a spouse (67). This was followed by: child of over 18 (39), grandchild of under 18 (30), "other" (19), grandchild of over 18 (17), and lastly, child of under 18 (6). It is clear, therefore, that 21 respondents shared with more than one of the above combinations.

The findings which reflect the differences between the population groups are summarised below:

- 31 (76%) blacks, 112 (67%) coloureds/Asians, and 14 (39%) whites shared a bedroom.

- The 14 whites shared their bedroom either with a spouse (10) or another resident of an old age home/institution (4).

- Most of the 112 coloureds/Asians who shared a bedroom, shared with a spouse (44). Other combinations noted included one or more of the following: child of over 18 (27), grandchild of under eighteen years (18) grandchild of over 18 (15), old age home/institution resident (5), child of under eighteen years (4), relatives (2), same sex friends (2), opposite sex friend (1), and foster child (1).

- Of the 31 blacks who shared a bedroom, most shared with a spouse (13). Other combinations included one or more of the following: child of over 18 (12),

grandchild of under eighteen years (12), single quarter residents (3), child of under eighteen years (2), grandchild of over 18 (2), and relatives (2).

Of the 79 respondents who shared a **bed**, most (54) shared it with a spouse; followed by an adult child (9), child of under eighteen years (10), adult grandchild (5), grandchild under eighteen years (11), and other (3). It is clear, therefore, that 13 respondents shared a bed with more than one of the above combinations.

As regards the differences between the populations groups. Six (17%) respondents were white, all of whom shared a bed with a spouse. The combinations amongst the 12 (29%) blacks included: spouse (8), child of over 18 (2), and grandchild of under 18 (4); while amongst the 61 (36%) coloureds/Asians, it included: spouse (40), child of over 18 (7), grandchild of under 18 (7), grandchild of over 18 (5), "other" (3). The "other" included a boyfriend (1), sister-in-law (1) and daughter-in-law (1).

(vi) Safety

Only 10 (4%) out of a total of 237 respondents stated they did not feel safe where they lived. Slightly more (25) stated that they had been attacked or robbed with almost half (12) of this group stating this had occurred in the past three years. The numbers were too small to reflect meaningful differences between the population groups.

(vii) Proximity to Shops, Transport and Medical Services

Two hundred and forty-three responses were obtained to questions relating to the distance from the nearest cafe, bus/train and clinic/hospital or doctor. The findings which show the differences between the population groups are summarised below:

- 202 (83%) respondents lived within 15 minutes walking distance from a **cafe** selling basic foodstuffs. Thirty-one (86%) were white, 142 (86%) coloured/Asian, and 29 (71%) black.

- 187 (77%) respondents lived within 15 minutes walking distance from the nearest form of **public transport.** Thirty-two (88%) were white, 130 (78%) coloured/Asian, and 25 (61%) black.

- 85 (35%) respondents lived within 15 minutes walking distance of **medical help.** Twenty-two (61%) were white, 56 (34%) coloured/Asian and 8 (20%) black.

(viii) Responsibilities in the Home

Excluding those elderly living in old age homes or institutions, 41 (17%) out of a total of 243 respondents claimed to have responsibilities in the home. The range of responsibilities, the number of respondents affected and the differences between the population groups of the 41 respondents are as follows:

- Cooking (33). Seven (88%) were white, 7 (88%) black, and 19 (76%) coloured/Asian.
- Housework (26). Seven (88%) were white, 6 (75%) black, and 13 (52%) coloured/Asian.
- Child minding (10). Eight (32%) were coloured/Asian and 2 (25%) black.
- Supervising care of a family member (7). Five (20%) were coloured/Asian, 1 (13%) white and 1 (13%) black.
- "Other" responsibilities (2). One black man indicated he had farming responsibilities to attend to when he returns to the Transkei and the other, who lived in a housing unit for senior citizens, along with other able-bodied males, was involved with a security patrol for the Unit.

(ix) Handicap amongst Family Members

Patients in Old Age Homes or institutions were not asked to respond to questions relating to handicap amongst family members.

Excluding the possibility that they might also be handicapped, 29 (13%) out of a total of 230 respondents stated that there was someone in the home with a handicap which interfered with normal functioning. Of these 23 (14%) were coloured/Asian, 3 (11%) white, and 3 (10%) black.

Twenty-one (72%) of the respondents stated that the handicap was physical and/or 11 (38%) stated that it was psychiatric. The latter category was only scored if the person received treatment at a recognised psychiatric clinic.

(x) Medical Treatment amongst Family Members

Two hundred and forty-one responses were recorded in answer to questions relating to: (i) attendance at a hospital/clinic/ doctor's surgery for medical follow-up or treatment on

a regular basis, (ii) regular (daily) use of prescription drugs, and (iii) regular (daily) use of non-prescription drugs. The findings show that:

- 211 (88%) of the respondents indicated that they, or another family member, needed medical follow-up or treatment on a regular basis.
- 213 (88%) of the respondents stated that they, or another family member, had to take prescription drugs daily.
- 10 (4%) of the respondents stated that they, or another family member, took non-prescription drugs on a daily basis.

(xi) Alcohol and Drug Usage

Use of Alcohol

Out of 230 responses to the question "Is there anyone in the home who uses alcohol?" 56 (24%) responded affirmatively. Sixteen (57%) were white, 15 (37%) black, and 25 (16%) coloured/Asian.

Although many respondents stated that consumption of alcohol was limited to festive occasions, 13 (23%) did admit that it caused problems in the home. This applied to 7 coloureds/Asians, 5 blacks and 1 white. With regard to the type of problem, three blacks and six coloureds/Asians admitted that the alcohol usage caused emotional problems, while two blacks and one coloured admitted to financial problems. One of these admitted to both financial and emotional problems.

Use of Drugs

Out of 228 respondents only three (1%), two blacks and one coloured, admitted that a family member used drugs (e.g. dagga). One of the blacks stated that the use of drugs occurred occasionally, the other black and the one coloured stated that usage was on a regular basis.

(xii) Family Transport

Of the 240 respondents to the question "What type of transport does the family most often use?", 103 (43%) stated "private car". Of those with a private car, 24 (69%) were white, 76 (46%) coloured/Asian, and only 3 (7%) black.

Transport and Morale

As noted on p. 97, successful ageing has been correlated with the availability of personal transportation. The findings presented in Table 41 which were significant show similarities in that public transport was the most frequent form of transport used by 67% of the 66 patients with average or below total scores (low morale).

TABLE 41: MODES OF TRANSPORT AND PGC MORALE SCALE TOTAL SCORES

	Transport Used					
	Private Car		Public Transport		Total	
Morale Scores	N	%	N	%	N	%
00 - 10	22	10,09	44	20,18	66	30,28
11 - 21	74	33,94	78	35,78	152	69,72
Total	96	44,04	122	55,96	218	100,00

Frequency Missing = 144
p = 0,036

Transport and Leisure Activities

Choice of leisure activities, such as trips to the beach, must be affected by the availability of transport. In this study there is no evidence to suggest that this is the case. Of the 240 respondents, 202 (84%) had leisure activities scale total scores of average or below (low levels of activity). Of this group, 82 (41%) mostly travelled by private car, and 120 (59%) by public transport.

8.3. DISCUSSION OF FINDINGS

Contrary to the evidence presented in the literature review, the overall impression gained by the researchers while visiting the homes, which is to a large extent reflected in the findings, was that most of the respondents were adequately provided for. Although most (82%) were in receipt of a state pension, which is considered inadequate to meet basic needs, most (86%) lived in households where there was another source of income. There was little evidence of unemployment or extreme poverty. In fact only one household was

without an income. By and large the homes were well-furnished and well-maintained. As shown in the findings the largest majority lived in homes with sufficient amenities such as electricity (90%), inside toilet (79%), electric or gas stoves (89%), and refrigerators (89%). There was little evidence of extensive overcrowding and a lack of privacy. Although 90 (37%) shared a bedroom with someone other than a spouse and 15 (6%) a bed this was often by choice. Finally, the homes, were, by and large, situated within easy reach of shops, transport and medical facilities, safety was not an issue and a large proportion of the families owned their homes (47%) and had their own transport (43%).

However, some findings show consistency. More blacks and coloureds/Asians than whites received state pensions; few state pensioners admitted to a total monthly income higher than the state pension; the most common source of additional household income was children, followed by spouse; a substantial proportion of the sample received material or financial help from sources outside the home; children were the most common source of this aid; the majority lived in mainstream community housing, and finally, more whites than blacks or coloureds/Asians lived alone or in old age homes.

Other findings were expected. In view of the fact that blacks receive a lower social pension that either whites or coloureds and Asians, it is not surprising that the income of most blacks was lower than coloureds/Asians and whites. That the majority of respondents were in receipt of a state pension was also expected. As discussed later (p. 223) GSH primarily provides health care to the less privileged sector of the population.

The findings show that 13% of the respondents lived with someone with a handicap which interfered with normal functioning. These findings are to be expected. A large proportion of the sample were married thus it is logical to assume that many of them would have elderly and functionally impaired spouses. When this is taken into account as well as the fact that as is discussed later (p. 196), most elderly persons suffer from at least one chronic illness, it is hardly surprising to learn that 88% of the respondents stated that they, or another family member, needed medical follow-up, or treatment on a regular basis and used prescription drugs on a regular basis.

The adequacy of the housing situations mentioned above is pleasing. However, in the light of the disturbing picture presented regarding the economic future of the aged (p. 141) and the fact that few people make provision for sufficient income to meet their needs after retirement it is hoped that the families of this population of elderly are making provision for their own old age and not just spending everything they earn. As a preventive step those involved with the care of the aged should thus encourage the families to make use of the wide range of retirement courses now on offer, as these courses stress the need to plan ahead.

But, although the overall picture was favourable, differences were apparent between the population groups. Blacks were the most disadvantaged: they appeared to be poorer, somewhat more lived in rooms, shacks or single quarter dwellings and few had the use of a car. The houses they lived in were also smaller and lacked basic amenities such as running water inside the homes. This is to be expected in view of their impoverishment and the fact that for many the Cape has, up until recently, been a temporary place of residence.

Earlier it was noted that in addition to blacks, coloureds and Asians are also, by and large impoverished. Yet both researchers noted that more Asians and coloureds than whites appeared to enjoy a high standard of living. A number of factors could account for this finding.

Firstly, there is a considerable evidence to suggest that there is a strong association between socioeconomic position, health, and mortality. Generally, poorer health is found among those of lower socioeconomic position (Kaplan and Haan 1989:29). It is possible, therefore, that the elderly who attend Groote Schuur Hospital constitute a special group by virtue of having survived to old age. Modifiable influences on health have already had their impact, or will have a markedly reduced impact. However, an American study found that the association between socioeconomic position and health in fact, declined with age. But, as Kaplan and Haan (1989:41) point out, these results merely highlight the difficulties associated with the measurement of socioeconomic resources at older ages. For example, changes in income following retirement may lead to persons who were previously classified in higher socioeconomic strata being classified in lower strata.

Alternatively, the association might decline due to the previous higher rates of death among people in lower socioeconomic positions, a survivior effect. In an attempt to clarify the association between socioeconomic position and mortality in older people further, these writers examined the impact of changes in socioeconomic position on subsequent mortality. The conclusion reached was that changes in income are associated with risk but that the dynamics of socioeconomic position are more strongly related to risk of death in older persons than are single point estimates of socioeconomic position.

Second, there is a possibility that behavioural factors have also had their impact on the health and mortality of the sample population. By far the most important behavioural factor related to health and mortality in middle-age is that of smoking. But, while the overall mortality rates for people over 60 is substantial, and there are some conflicting reports, nonetheless the bulk of the evidence is consistent enough to suggest that elderly continuing, and past, smokers also have a greater mortality risk than non-smokers (Kaplan and Haan 1989:33). Unfortunately, this study made no attempt to cover the smoking habits of the respondents thus the possible contribution of smoking to the longevity of the sample can only be noted but not substantiated.

There are, however, other behavioural factors known to influence the health status of older people which were examined in this study, i.e. alcohol and drug use. Abuse of these toxic substances is known to influence the health of the aged and has been implicated as an important causative factor for many chronic diseases (McConnell and Matteson 1988:515; Hendricks and Hendricks 1986:180). In this study the findings show that alcohol and drug usage does not feature in the lives of the elderly or their families. Although responses to questions of this nature tend not to reflect the true picture, nonetheless neither researcher saw evidence around the home (such as bottles of alcohol) to suggest alcohol and/or drug use, despite the fact that visits were, in the first instance, unannounced.

The possibility thus exists that both the socioeconomic position and behavioural factors, may have already had their impact on the elderly population who presently attend GSH. Encouraging as these results are, nonetheless there is room for potential improvement in their health status. Earlier (p. 39) it was noted that the elderly in traditional societies

are relieved of some duties. In fact it would seem that the urban elderly in this sample are relieved of almost all their duties: earlier it was shown that less than 10% needed to undertake the instrumental activities of daily living. In addition it was shown that only 11% participated in any form of physical exercise and 17% had any responsibilities. As the evidence presented in earlier chapters indicates people who are active, mentally and physically, are more likely to remain healthy, retain a positive sense of self worth and forestall the process of ageing. Clearly there is a need, therefore, for those involved with the care of the aged not only to encourage them to undertake more physical activity but to take responsibility for their own lives and to actively participate in the running of the household.

Elsewhere similarities have been noted between the evidence presented in the literature review and the findings of this study. In this chapter further similarities have been presented. The findings show a discernible trend between low levels of activity and low monthly income, as well as between lower income and lower morale amongst blacks, and between lack of private transport and low morale. However, other findings show dissimilarities. For example the living situations of the sample elderly were by and large favourable. Additionally, in this chapter there is no similarity between the evidence in the literature review and the findings in this study which suggest that participation in leisure activities is not affected by the availability of personal transport. The similarities highlight the interrelationship between physiological, psychological, cultural and social factors in the process of ageing. The dissimilarities demonstrate the complexity of the ageing process and add to one of the premises on which this thesis is based: that ageing populations are not homogeneous thus in order to understand a particular aged population, characteristics specific to that population must be taken into account.

Finally, the findings show that the majority of the sample population live in mainstream community housing with children or relatives. This does not preclude the possibility that some would prefer to live alone, but cannot because of the housing shortage in South Africa. Others may prefer to live in old age homes, or protected housing units. Yet others may wish to move because of abuse or because their families find the burden of care too onerous. In order to address these issues more fully the support networks of the elderly must first be examined. This is the concern of Chapter 9 which follows.

CHAPTER 9

THE SUPPORT NETWORKS OF OLDER PEOPLE

The term "social network" has been defined as a set of personal contacts through which individuals maintain their social identity and receive emotional support, material aid and services, information and new social contacts (Tshabalala 1986:72). Lack of social ties with others has been shown to be an important risk factor in psychological dysfunction, illness, and even death. Social network support enhances immunity to illness, influences health-related behaviours, and maximises adaptation to illness (Ell 1984:133). Social networks consist of people from various sources, such as family, friends, neighbours, co-workers, and formal helpers. Network ties can be classified as either close-knit intimate relationships, or loose-knit, casual acquaintances. The social network of an individual can be described along structural and interactional dimensions including size, source of ties, member homogeneity, frequency of contacts, and opportunity for reciprocal exchange of supports (Ell 1984:134).

In this chapter the literature reviewed covers the strength, range and use made of informal support networks by the elderly, as well as the position relating to the provision of support services by the formal sector of South African society. This is followed by a presentation and discussion of findings showing the social support network of the sample aged and their use of, and need for, community resources.

9.1. REVIEW OF LITERATURE

9.1.1. THE INFORMAL SUPPORT NETWORKS OF THE ELDERLY

The strength, range and use made of informal support networks is determined by lifestyle, beliefs and customs. Thus, as in previous chapters, the relationships and support of the elderly in modern westernised societies in general, as well as the family life of the African

aged will be reviewed. This does not, of course, preclude the possibility that other combinations can, and do, exist or that there are similarities between say, African families and families in other communities, for example Indian families (Nair 1989:184; Meer 1969:73).

(i) Kin Relationships in Modern Westernised Societies

There are several comprehensive reviews of the many studies of the **kin relationships** of older persons in modern westernised societies (Tamir 1979:112; Chappell and Guse 1989:219). These reviews indicate that:

(a) The majority of elderly and their adult children prefer to live in separate homes. Factors which increase the likelihood of an aged parent moving in include decreased material resources, poor health, widowhood and the availability of many children.

(b) Elderly adults are far from isolated from their adult children. Most have close relatives, or at least one child within visiting distance with whom they maintain frequent contact. This is especially true for working-class populations. Middle-class children tend to live further away yet maintain strong family ties. Their moves are not to escape from parents but to follow career opportunities. However, distances shrink between parent and at least one child by the time the parent is old.

(c) For the elderly relationships between parent and children are often the most intense. Relations with brothers and sisters, however, may also be close, particularly when the elderly person is single, has no children, becomes widowed, or still has a living mother. The older adult may strengthen ties with siblings in later life; unlike parent-child relationships, power is usually equally shared. The relationship is, therefore, less ambiguous, the interaction more comfortable.

(d) The relationship between husband and wife can be most satisfying during later life. Once the children have left the home, husband and wife are more free to dedicate their time and energy to one another. Few relationships of later life can convey the sense of self-confirmation derived from the mutuality and self-understanding when husband and wife communicate.

(e) Family relationships change over time. As the family develops and its members branch out in their lives, striking similarities between the generations remain. There may be a generation gap in modern society, but this gap narrows substantially when viewed within the family.

(f) Elderly adults and middle-aged children perceive their visiting patterns accurately. While older adults may lessen the extent of other social activities, they do not lessen the extent to which they interact with their families. Even if children live far away, they telephone, write, and make long visits.

(g) The quality of the relationship takes precedence over the physical distances separating parent and child. Older adults not living with their child are no more likely, than those who are, to report feelings of neglect. Infrequent visits do not always dampen parents' morale. Feelings of neglect instead are more strongly related to parents expectations of a close relationship, particularly when the relationship fails to materialise.

(h) Approximately 80% of all assistance provided to the elderly comes from family members and from friends. Family support usually is provided by one or two members rather than the familial network as a whole. Traditionally, primary caregivers are - wives, daughters and daughters-in-law. Elderly individuals receive assistance first from the spouse, if one exists, and then from children, notably from daughters. Daughters tend to provide direct services, i.e. physical maintenance and emotional support. Sons play a more substantial role in decision-making or with financial assistance. However, when no daughter is available, sons do provide such care. The sexual division of labour is also evident in the contributions of the children's spouses (the elderly person's children-in-law). If a daughter is providing care her husband tends to accept her role but does not assist. If a son is providing care, his wife also assists.

(i) In most cases, parents of any age aid the child as long as possible, but factors such as health and money can reverse the process. Hence, middle class adults continue to offer help to their middle-aged children. In the less advantaged working class, the reverse may occur.

(j) Although, according to their children parents tend to under-report the amount of aid they give and receive, as they age their views tend to converge.

(k) The older adult dislikes asking others for help. When this occurs there is a loss of leverage in the power relationship. Family relationships are often defined and transformed through communications of power, which can be expressed by means of the exchange of goods and services. If the relationship is harmonious, both parties benefit from the give and take, but if a struggle for power and influence is about to erupt, it often takes form in concrete acts of services given and withheld.

(l) After children, assistance is received specifically from siblings and then from friends. Grandchildren seldom provide assistance and extended kin (nieces, nephews, cousins, in-laws etc) tend to be bypassed beyond siblings. After siblings, the elderly in modern day society turn to non-kin ties, to peer friendships.

(ii) Relationships with Friends/Neighbours in Modern Societies

In a modern society relationships with **friends and neighbours** are also of importance. Tamir (1979:117) in a comprehensive review of studies of the relationships between the elderly and their friends and neighbours, suggests that:

(a) parent-child interactions carry over into interaction with friends. If the child fulfills the emotional needs of the ageing parents, there is energy left to expend upon friendships. A person who maintains a high morale and firm sense of the self finds it easier to initiate other meaningful relationships.

(b) older people living in the community visit their children more often than neighbours; yet, if visiting children is an infrequent event, they do not necessarily make up for this lack by searching out friends.

(c) If visits to children who live nearby are rare and superficial, the older adults is more likely to depend upon neighbours.

(d) Many older adults have fewer friends in later life. The number of friendships that are maintained is often a function of availability. During old age friends and neighbours are often one and the same, and after retirement males often shift from the workplace to neighbours in pursuit of friends.

(e) There are social-class differences in patterns of friendship: working-class aged turn more toward their neighbours for developing friendship ties. Middle-class adults tend to have more friends spread out over a wider areas.

(f) Ambivalent emotions surround many friends among aged adults, because of personal feelings about old age. This mixture of feelings is more common among middle-class adults, who are more defensive concerning old age. At times they actually prefer not to associate with others their own age. On the other hand, the old-old (aged 75 and over) are especially prone to seek many friends in neighbourhoods with large populations of elderly.

(g) Even if fearful of having the self associated with old age, most older adults select friends of their own age range.

(h) If the aged person has at least one confidant many other social activities can be curtailed with little or no risk of depression.

(i) Not all older adults have the benefit of a confidant. Those who do not often have low morale. However, they do not present as persons who are burdened with severe psychological problems, often because they have been isolates nearly all their lives. Confidants need not necessarily be a friend. A spouse, and child is equally likely to be a confidant. Siblings and other relatives are less likely to play this role. Married persons are the most likely to have confidants, single persons least, with widows and divorcees lying somewhere between.

(j) Married elderly are less likely than the widowed or the single to seek more friends in neighbourhoods with many older adults.

(k) Sex and social class influences proclivity towards and selection of other persons as confidants. Females are more likely to participate in confidant relationships, tend to have more friends and are more involved in neighbourhood networks of social relations. They are also more capable of establishing close relations with

a wider range of persons than are men. In terms of social class, those above the median economic level are more likely to have a confidant than those those who are below. Middle-class aged have more friends and are less reliant upon neighbours for social activities than working class aged. Middle class aged also often forego superficial relations with many neighbours for the rewards of substantial and intimate ties.

(iii) The Family Life of the African Aged

Maforah (1987:262) summarises those features which characterise the anthropological stereotype of African family life: no public display of affection between spouses; strong parental authority; family care for the elderly; co-operation between relatives; no assistance from the husband in domestic work; involvement of parents in the choice of spouse; polygamy; early marriage for women; large families living together; no courtship; little privacy and little emphasis on love-making; payment of bride-wealth (lobola); no freedom of communication between parents and children; children reared by a large number of relatives; and families not sharing leisure.

Tshabalala (1986:73) considers the following definition best describes an African family. It is a multi-generational, interdependent kinship system welded together by a sense of obligation to relatives. It is organised around a "family base" household, is generally guided by a "dominant family figure"; and extends across geographical boundaries to connect family units to an extended family network. Finally, it has a built-in mutual aid system for the welfare of its members and the maintenance of the family as a whole.

According to Tshabalala (1986:74) kinship of this nature compels family members to feel a sense of obligation to parents, aunts, cousins, nephews, nieces, brothers, sisters, grandparents and all their kinfolk. So, for economic assistance, for friendly counsel, in times of sorrow and in times of joy, these are the natural people to turn to. Other than the friends and "contacts" an individual may have, kin members form the core of people with whom one is close-knit from birth in a web of reciprocal rights, and duties. These practices and obligations preclude family members forming isolated families.

Mutual Aid System

Using the Nguni people of South Africa as an example Tshabalala (1986:75) discusses the mutual aid system of the African family. He notes that there are occasions where money has to be given to one family member for whatever reason. There are certain family occasions like the birth or christening of a child, initiation of a boy, contributions for lobola (bride price) marriages, burials and so on, where each family member is expected to contribute financially for the smooth running of whatever activity. Usually there is no limit as to the actual sum contributed, though "well-off" family members are expected to contribute more than others. He also notes that money often changes hands among kin in the form of a loan and sometimes a gift or performing a service. Emergency situations arise, for example giving financial assistance to a family member who has lost his job. One need not be down and out to receive aid, nor well-off to give it. Money exchange among kin members serve as a kind of internal insurance policy, where the giver relies on getting help from others whenever he needs it. Whatever the form, frequency, or specific purpose of the contributions, the mutual aid system is fueled by traditional dictates and partly by a sense of obligation to your "blood". Moreover the person who contributes is rewarded with status and influence within the family network.

In troubled times, such as loss of a job or loved one, there is also provision of moral support. The extended family thus gives a sense of identity, of roots, and the emotional security of belonging. It is common for a particular bond to develop between two members of an extended family. Such relationships will provide emotional and economic support for an individual concerned.

Non-family Support

Industrialisation, urbanisation and the impact of the racially discriminatory practices have not led to the disintegration of the mutual aid system of African families. As Tshabalala (1986:75) notes new support systems, such as burial societies, child care arrangements, food co-operations, church clubs and several other informal networks have developed. He also notes that neighbours and friends provide social support for a given individual. Close friends are seen frequently, depending on the nature of the friendship. Generally, these friendships are not family affairs, and every member of the family tends to have his/her own little circle of friends. Nevertheless, a particular friend of one member may be on

friendly terms with the whole family, while neighbours may be friendly to each other as families.

Tshabalala (1989:77) comments that for some people, especially in urban areas, it is the non-family support system that is increasingly replacing the hitherto strong influence of the extended family. Some such relationships are so intimate that they are viewed as family relations.

9.1.2. THE FORMAL SUPPORT NETWORK IN SOUTH AFRICA

In South Africa it is state policy that "the responsibility for every citizen's social security rests in the first place with the citizen himself. Only if his own efforts provide inadequate is the State prepared to step in with help and guidance. The independence of the individual, the family and the community must be maintained and encouraged" (Hare and McKendrick 1976:79).

The formal support, or welfare system which exists in South Africa is thus based upon a partnership concept with both the State (at national, provincial and local levels) and the community sharing the responsibility for the provision of services (Hare and McKendrick 1976:78).

A wide range of services for the aged are available in South Africa. These include: institutional care, special housing, health services, domiciliary services, and recreational and leisure services, which include holiday schemes, care of the aged week, clubs, functions, entertainments and service centres. The domiciliary services include: home-help, laundry services, meals-on-wheels, transport services, visiting services and social work services, which cover the provision of material and supportive help, and counselling services for family, accommodation, pension, personality and bereavement problems (Winckler 1971:6; Droskie 1977:436).

Although a wide range of services is available, long-term planning, effective co-ordination and standardisation is limited and may vary from one area to another. In their report on the Socio-economic and Spatial Implications of Ageing, the President's Council (1988:92)

comment that welfare organisations, Churches and public authorities are sometimes guilty of promoting their own interests before those of the community. This frequently leads to inadequate co-operation and even competition, resulting in duplication of services. This lack of unity has led to the development of welfare programmes which are limited and fragmented in their impact and value. Additionally, the divergent and sometimes unnecessarily high standards and requirements set by different Government departments and local authorities have led to breakdowns in communication and the wasting of time and manpower. This has resulted in poor planning and co-ordination and high running costs.

The President's Council (1988:93) also report that social services are not always sufficiently geared to the real needs, capacities and preferences of the aged in the community. Services are sometimes planned without an in-depth study of the real needs and the available resources in the community. As a result, too many services are planned for the aged instead of with them. Also, these services are not always designed to promote self-help and independence and too little attention is paid to stimulating and utilising natural aid networks such as the family, relations, friends, neighbours and volunteers.

Finally, services are unequally distributed amongst the four population groups, and in particular amongst the blacks. This is because until recently official government policy, supported by group areas legislation, has been that blacks were temporary residents of white urban areas with their true citizenship in the Homelands, where they would return on retirement. In addition it was considered that the traditional social system and family structure were such that a considerable amount of what is usually regarded as public welfare assistance would be carried out by relatives and associates. It was thus considered necessary and advisable to differentiate between this group and others as regards the nature and scope of the assistance provided (Hare and McKendrick 1976:77).

Blacks are the poorest socio-economic group and the least able to establish and maintain financially self-reliant facilities facilities and services so they have had, to a considerable extent, to depend on the financial resources of other communities and the state. The state subsidies to the black community are also lower than those paid to other groups, so

little effort or resources have been expended on developing services for blacks. A similar, although not so extreme, position exists insofar as coloureds and Asians are concerned (Eales 1980:117).

Despite the relative advantages enjoyed by whites, community and domiciliary services for them are inadequate and have developed unilaterally. Too great an emphasis has been placed on the provision of homes for the aged. A number of reasons for this have been cited in the literature including poverty, lack of family for caregiving, attainment of future security while still in relatively sound health, inappropriate placement, the generous contributions made by the state to welfare organisations for the construction and maintenance of white old-age homes, and the inadequacy of supportive and auxilliary community services (Lawton 1989:15; Van Eeden 1982:4; Trichard et al 1982:626).

In sum, the current organisation of the South African welfare system is deficient in several critical respects. It is at present, limited, fragmented, unco-ordinated, inadequately planned and unequally distributed. Although the inequality as regards institutional care can be reduced now that the group areas legislation has been abolished, nonetheless there would appear to be a need for additional services, particularly domiciliary services.

Lawton (1989:15) discusses the need for additional domiciliary services. He is of the opinion that a figure of 5% for whom it is appropriate to give nursing home care for major impairments is reasonable. He suggests that there is a need to concentrate on the non-frail and to determine whether less-expensive housing plans, financial aid, or limited community supportive services, as well as psychological assistance for the insecure, could be made into better alternatives than the homes for the aged.

Lawton (1989:15) also discusses the position relating to the frail aged. He points out that hospital care, if not already an impossible alternative will soon be so from a financial point of view. He also points out that it is just as unlikely that lifetime savings and the retirement income of most people could fully pay for the expected three to five years institutional dependency. However, he raises the question of whether the great majority of families can assume the care of a very old person who cannot perform for himself the basic activities of daily living. While clearly many do, and do so willingly, there are many

reasons, some of which were examined in the literature review in the last chapter, why some simply cannot take on such a task. Additionally, as longevity increases a comparable increase will occur in the number of adult-child caregivers who are themselves aged. As the proportion of the very old increases, the percentage who are frail can be expected to increase. In the case of the disadvantaged poor, the costs of maintaining a dependent relative may thus simply become impossible (Lawton 1989:15). A possible solution is proposed by Lawton (1989:16): long-term care insurance. He notes that long-term care insurance would allow people to cover the costs of institutional care by making regular payments over a period of years, in the same way that health insurance is managed. He does point out, though, that notwithstanding the financial burden on the nation and on the individual, it is difficult to see how the best in health care, housing, community support, productive behaviour, or institutional care can be delivered in South Africa in the absence of a base of income that can meet the costs of a bare minimum existence, whether in the community, in a housing scheme, or in an institution.

9.2. PRESENTATION OF FINDINGS

From the literature reviewed above it would appear that it is not the living arrangements, but the nature of the interaction and ties between the elderly and their kin, which determines their use of, and need for, formal support. This holds true for both modern and traditional elderly. The findings presented below will show if this also applies to the elderly of this study.

9.2.1. SOCIAL SUPPORT NETWORK

In this section the findings presented and discussed relate to the children, siblings, other relatives and friends of the respondents. An attempt is made to determine the extent of their social support network and the frequency and type of contact with this network.

(i) Number and Availability of Children and Siblings

Children

Two hundred and forty-one respondents answered questions relating to their natural or adopted children (not step-children). The findings presented in Table 42 and those relating to the questions "How many of your children are still alive?" and "How many reside in the Cape Town area" show that:

- All but 20 (8%) respondents had had children, with an average of 6 children per respondent
- Only 4 (2%) respondents had no children still alive
- 14 (6%) respondents had no children residing in the Cape Town area
- An average of 4,66 children per respondent were still alive at the time of the inteview
- An average of 4,16 children per respondent resided within the Cape Town area.

TABLE 42: NUMBER OF CHILDREN

Number of children	N	%
00	20	8,30
01 - 02	34	14,11
03 - 05	69	28,63
06 - 08	62	25,73
09 - 11	29	12,03
12 and upwards	27	11,20
Total	241	100,00

Frequency Missing = 121

Siblings

Two hundred and twenty-eight responses were recorded for the question "How many brothers and sisters were there in your family or How many children did your mother have?" The findings presented in Table 43 and those relating to the questions "How many are still alive?" and "How many are living in the Cape Town area?" show that:

- Only 16 (7%) respondents had no siblings

- 50 (22%) respondents had no siblings still living
- 46 (29%) had no siblings residing in the Cape Town area
- An average of 5,66 siblings per respondent was recorded
- An average of 2,17 siblings per respondent were still alive at the time of the interview
- An average of 1,85 siblings per respondent reside in the Cape Town area.

TABLE 43: NUMBER OF SIBLINGS

Number of Siblings	N	%
00	16	7,02
01 - 02	31	13,60
03 - 05	75	32,89
06 - 08	62	27,19
09 - 11	25	10,96
12 and upwards	19	8,33
Total	228	100,00

Frequency Missing = 134

(ii) Amount and Type of Social Support

Children

Of the 216 respondents:

- 212 (98%) were in contact with their children
- 165 (76%) saw a child on a daily basis
- 100 (46%) telephoned or were telephoned by a child more than once a month
- 8 (8%) wrote to, or received letters from a child more than once a month.

Siblings

Of the 170 respondents:

- 144 (85%) had some kind of contact with their siblings
- 55 (33%) saw a sibling at least once a week or more
- 70 (41%) telephoned, or were telephoned by, a sibling once a month or more
- 13 (8%) wrote to, or received letters from a sibling once a month or more.

Other Relatives/Friends

Of the 238 respondents:

- 228 (96%) were in contact with a relative/friend
- 185 (78%) saw a relative or friend, daily (67) or weekly (118)
- 97 (41%) telephoned, or were telephoned by, a relative or friend, at least once a month
- 5 (2%) wrote letters to, or received letters from, a relative or friend on a weekly or monthly basis.

(iii) Social Support and Morale

Feelings of self-worth depends on the existence of a supportive social environment. Social ties are linked to psychological well-being, illness, and even death. In this study an examination was made of the Philadelphia Geriatric Centre (PGC) Morale Scale total scores which were divided into two groups, low morale (00 - 10) and high morale (11 - 21), and face-to-face contact between the respondents, their children and siblings. The findings presented in Table 44 suggest that weekly contact with siblings may affect morale. Compared to those with low morale (21%), proportionately more (38%) of those respondents with high morale were in weekly contact with siblings than those with low morale (21%).

TABLE 44: FACE-TO-FACE CONTACT AND PGC MORALE SCALE TOTAL SCORES

	PGC Morale Scale Total Scores							
	Children[1]				Siblings[2]			
	00 - 10		11 - 21		00 - 10		11 - 21	
Extent of contact	N	%	N	%	N	%	N	%
Daily	46	23,59	104	53,33	3	2,31	4	3,08
Weekly	9	4,62	21	10,77	7	5,38	36	27,69
Monthly	3	1,54	2	1,03	7	5,38	19	14,62
<Monthly	4	2,05	6	3,08	17	13,08	37	28,46
Total	62	31,79	133	68,21	34	26,15	96	73,85

[1] Total N = 195
Frequency Missing = 167

[2] Total N = 130,
Frequency Missing = 232

Social Support and Population Group

In this study the amount and type of contact between the population groups was examined and show that:

Children

Of the 216 respondents, 212 (98%) were in contact with their children. Of the 212 respondents 39 (100%) were black, 144 (99%) coloured and 29 (94%) white. The extent and type of contact of each population group is as follows:

- 123 (96%) coloureds/Asians, 34 (87%) blacks and 23 (79%) whites saw a child at least once a week.
- 6 (21%) whites, 3 (8%) blacks and 4 (3%) coloureds/Asians wrote to, or received letters from a child at least once a week.
- 18 (64%) whites, 61 (42%) coloureds/Asians and 2(5%) blacks telephoned, or were telephoned by a child at least once a week.

Siblings

Of the 170 respondents, 144 (85%) were in contact with their siblings. Of the 144 respondents, 21 (88%) were white, 101 (86%) coloured/Asian and 22 (77%) black. The extent and type of contact of each population group is as follows:

- 48 (47%) coloureds/Asians, 6 (27%) blacks and 1 (5%) whitessaw a child at least once a week.
- 7 (33%) whites, 4 (18%) blacks and 2 (1%) coloureds/Asians wrote to, or received letters from, a sibling at least once a week.
- 43 (43%) coloureds/Asians, 5 (24%) whites and 2 (9%) blacks, telephoned, or were telephoned by a sibling at least once a week.

Other Relatives/Friends

Of the 238 respondents, 228 (96%) were in contact with other relatives/friends. Of the 228 respondents, 159 (97%) were coloured/Asian, 38 (95%) black and 31 (91%) white. The extent and type of contact of each population group is as follows:

- 27 (87%) whites, 129 (81%) coloureds/Asians, and 29 (76%) blacks saw another relative/friend at least once a week.
- 3 (10%) whites, 1 (3%) blacks and 1 (1%) coloured/Asian wrote to, or received letters from, a relative/friend at least once a week.
- 20 (65%) whites, 57 (36%) coloureds/Asians and 4 (11%) blacks telephoned, or were telephoned by, a relative/friend at least once a week.

(v) Social Support and Instrumental Activities of Daily Living

Most of the assistance provided to the frail elderly comes from family members and friends (p. 49). In this study comparisons were made between the Instrumental Activities of Daily Living (IADL) scale total scores and face-to-face contact with kin and /or friends. The following trends were observed:

- Out of the 212 respondents, 96 (45%) showed a high degree of dependency (IADL Scale total scores 21-32). Of these 76 (79%) were in daily contact with a child. Of the remainder 6 (6%) saw a child less than once a month.
- Out of 144 respondents, 51 (35%) showed a high degree of dependency (IADL Scale total scores 21-32). Of these 19 (37%) saw a sibling less than once a month.

- Out of 238 respondents, 108 (45%) showed a high degree of dependency (IADL Scale total scores 21-32). Of these 7 (6%) had no contact with "other" relatives and friends.

(vi) Emergency Contacts

All the 242 respondents had someone to contact in an emergency, the vast majority (81%) being either spouse, child/grandchild (Table 45). The three "other" contact persons were the pastor, landlady and boarders.

TABLE 45: PERSONS USED IN EMERGENCIES

Person	N	%
Spouse	60	24,79
Child/Grandchild	137	56,61
Sibling	4	1,65
Relative/Friend	22	9,09
Neighbour	4	1,65
Other	3	1,24
Staff Member	12	4,96
No-one	-	-
Total	242	100,00

Frequency Missing = 120

(vii) Help when Sick

Two hundred and forty-three responses were recorded for the questions (i) "Who mostly looks after when you are sick?" and (ii) "When you are sick, who usually buys your personal needs? (e.g. sweets, cigarettes, clothes, groceries)". The findings are presented in Table 46. The four "other" persons utilised included: maid (2), landlady (2).

TABLE 46: PERSONS HELPING WHEN SICK

	Type of Help			
	Care		Shopping	
Range of Persons	N	%	N	%
Spouse	62	25,51	56	23,05
Child/Grandchild	129	53,09	139	57,20
Sibling	2	0,82	2	0,82
Relative/Friend	24	9,88	26	10,70
Neighbour	5	2,06	4	1,65
Other	4	1,65	4	1,65
Staff Member	12	4,94	11	4,53
No-one	5	2,06	1	0,41
Total	243	100,00	243	100,00

Frequency Missing = 119

(viii) Availability of Support in the Home

Of the 244 responses to questions relating to the availability of an adult (18+) in the home, 202 (83%) stated that there was an adult in the home all the time. The remaining 42 respondents responded as follows: all day (3), mornings only (1), afternoons only (17), night only (8), no-one at any time (13).

Support in the Home and Functional Impairment

Ideally persons who are functionally impaired should have someone in attendance all the time. In this study an attempt was made to determine how many persons with a high degree of functional impairment were on their own at any time.

The findings show that out of 242 respondents 29 (12%) respondents showed a high degree of dependency on others for physical self-maintenance activities (average or above PSM total scores). However, only two had times when they were alone - one had no-one available in the mornings, and the other lived alone and had no-one available to help at any time.

Somewhat more of the 242 respondents, 108 (45%), showed a high degree of dependency on others for the activities of daily living (average or above IADL total scores). Most (100) had someone at home all the time. The situations of the remaining eight is as follows: alone day and night (1), alone during the day (1), alone at night (1), and alone during the mornings (5).

9.2.2. USE OF, AND NEED FOR COMMUNITY RESOURCES

In this section the findings presented include those relating to (i) the use of community resources, (ii) the differences between the population groups in the use of community resources, (iii) whether use of certain resources (service centre, old age home) is linked to leisure activity levels, (iv) whether those persons showing a high degree of dependency as regards physical self maintenance activities use a district sister, and finally (v) the use made, and factors linked to the use, of social workers.

(i) Utilisation of Community Resources

From the findings presented in Table 47 it is seen that the respondents indicated that they have little, or no use, for resources other than the Day Hospital or their private doctor. Most of those who used "home help" employed a domestic to help around the home, some or all of the time. The "other" community resources referred to included: another hospital (4), speech therapist (2) and hospice (1).

TABLE 47: USE OF COMMUNITY RESOURCES

	No Use		Uses		Would Use	
	N	%	N	%	N	%
Day Hospital/Clinic	102	42,32	139	57,68	-	-
Private Doctor	122	50,62	118	48,96	1	0,41
District Sister	229	95,02	10	4,15	2	0,83
Dentist	229	95,02	5	2,07	7	2,90
Social Worker	232	96,27	5	2,07	4	1,66
Physiotherapist	233	96,68	7	2,90	1	0,41
Occupational Therapist	236	97,93	4	1,66	1	0,41
Chiropodist	231	95,85	8	3,32	2	0,83
Home Help	215	89,21	25	10,37	1	0,41
Meals-on-Wheels	238	98,76	2	0,83	1	0,41
Nursing Services	236	97,93	5	2,07	-	-
Friendly Visitor	238	98,76	1	0,41	2	0,83
Service Centre	224	92,95	5	2,07	12	4,98
Social Club	217	90,04	16	6,64	8	3,32
Old Age Home	224	92,95	11	4,56	6	2,49
Holiday Relief	236	97,93	-	-	5	2,07
Other	234	97,09	5	2,07	2	0,83

Total N = 241

Frequency Missing = 121

(ii) Community Resources and Population Group

It has been noted that socioeconomic and cultural factors impact on the use of or need for community resources by the elderly. In this study out of a total of 241 respondents (41 blacks, 165 coloureds/Asians and 35 whites):

- 29 (71%) blacks, 98 (59%) coloureds/Asians and 12 (34%) whites stated they used the Day Hospital.
- 23 (66%) whites, 89 (54%) coloureds/Asians and 6 (15%) blacks indicated they consulted a private doctor when, and if, necessary.
- Only 5 (14%) whites used a dentist, although 3 (2%) coloureds/Asians and 4 (10%) blacks stated they needed to see a dentist.

- 11 (31%) whites, 4 (10%) blacks, and 9 (5%) coloureds/Asians stated they used, or if available, would use a social club.

(iii) Use of District Sister and Functional Impairment

Although separate entities, nonetheless there is a link between disease and disability. For those who are physically frail, a visit by a district sister is a primary or preventive health measure.

In this study it was found that only five (17%) of the 29 respondents with a high degree of dependency as regards physical self maintenance (PSM scale total scores of average or above) stated they would like to be, or were, visited by the District Sister.

(iv) Social Work Services

The social problems associated with the ageing process are the concern of the social worker. In this study, out of 235 respondents, 164 (70%) stated they know what a social worker does. However, only 58 (25%) had ever seen a social worker: 34 (14%) at GSH, and 24 (10%) in the community. Of these 33 (57%) stated they were satisfied with the service they received.

9.3. DISCUSSION OF FINDINGS

From the literature review section of this chapter it was established that in both modern and traditional families the elderly have well-established social support networks. This would appear to be the case in South Africa. The President's Council (1988:93) report that while among whites, the aged have to rely mainly on themselves for care, the evidence indicates that children and relations are willing to provide financial and moral support. As regards blacks, coloureds and Indians there are far stronger ties. Although a shortage of funds and adequate housing hampers these groups greatly the majority of aged people still look to their children and/or relatives for support. Most still appear to live with relatives. For example a survey of blacks in Johannesburg found that of those adults who shared accommodation with an elderly person 86% were close relatives (spouse, sibling, son and/or daughter-in-law, son or daughter or grandchildren. In the

Western Cape a survey of the Coloured elderly found that 96% lived with their families, while amongst Indians the indications are that extended families still exist to a very large extent (President's Council 1988:94; Eales 1980: 140).

The findings of this study further confirm that the elderly in South Africa have well-established social support networks. The findings show that most of the elderly respondents had children living nearby with whom they maintained regular contact and to whom they turned to for support. In addition most had siblings and/or other relatives and friends with whom they maintained regular contact and who provided support if the elderly person had no child or spouse to turn to. Furthermore most of the elderly had someone with them in the home all the time. Small differences were noted between the population groups as regards the amount and type of contact they had with their relatives and/or friends. However, somewhat bigger differences noted in the type of contact (writing letters, telephone calls). These findings perhaps reflect the higher level of literacy among whites and the fact that more whites than blacks and coloureds/Asians had a telephone in the home.

Although higher morale is linked to social contact, the findings of this study, which show no meaningful differences between contact with children and siblings and morale are to be expected. Earlier (p. 195) it was noted that the quality of the relationship takes precedence over the physical distances. In this study the quality of the relationship was not measured. In addition, the majority of the PGC Morale scale total scores clustered between 9 and 16 and most of the sample were in regular contact with their social networks. Thus, greater differences may occur in populations showing a greater spread on both dimensions.

The findings show that few (under 10%) of the sample elderly would use a social club or service centres. The findings also show that well under 10% have no use for domiciliary services, old-age homes, holiday relief. These findings can be interpreted in a number of ways. For instance the elderly and their families may feel it is of no use to say they will use a service if it is not available, or if it is available, if they cannot afford to pay for the service. Even though most services are provided at a subsidised rate, the additional cost may create too great a strain on an already tight household budget. Additionally, because

of their traditions and beliefs they and their families may dislike asking for help. The findings, in fact, show that family members (child, spouse, other relative/friend) are the primary source of support when they fall ill, or in an emergency. Furthermore, although the above-mentioned findings are noteworthy, the evidence would suggest that the position is likely to change. With increasing literacy and economic growth more carers may wish to enter the labour market. Once the housing shortage has been addressed more elderly may find themselves living alone. At present the findings show that few have no-one to care for them when they are sick (2%), or have no-one in the home at any time (5%). Moreover only 3% of those showing a high degree of dependency as regards the instrumental activities of daily living were alone all or part of the time. Finally with increasing numbers of frail aged caregiving may become an increasing burden with the result that more old people may be neglected or abused.

Thus, if the strong family ties which exist between the aged and their families are to be maintained, governmental and nongovernnmental institutions will need to aid and maintain the support networks of the elderly. Maintaining the informal support networks of the elderly would also appear to be the most desirable and efficient form of health care for the aged. Ell (1984:140) summarises the position: "social ties perform basic psychological and social functions and are vital to well-being insofar as they provide feedback assuring individuals that they are loved and valued and that they are not alone, are behaving within a socially normative framework, and can count on a range of supports if they should need them. When faced with particular stress, social relationships buffer individual perceptions of the stress, provide resources to modify the environmental demand, and help to manage individual affective response."

However, it has become increasingly clear that the development of any service must take into account priority setting, and services must decide who is to get what at whose expense. Thus while ongoing research which examines the health needs of a particular population of elderly serves this purpose, the evidence suggests that the aged and their families should be consulted and involved. If not, the possibility exists that they may not use any service to be developed. But, although an understanding of the specific needs and abilities of a particular population is necessary for planning services, the dynamic interplay between that population and their use of a specific system of health care must also be taken into account. This is the intention in the next two chapters.

CHAPTER 10

THE AGED AND THEIR HEALTH

In the next two chapters the concern is with the aged, their health and their use of hospital services, and in particular Groote Schuur Hospital (GSH). The aim is to examine the interaction of the ageing process and health so that the use of hospitals by the elderly can be explored and understood. An attempt can then be made to determine whether there is a need for additional cost effective services, and if so, the type of service most suited to the needs of the elderly, and in particular, those who use GSH.

The organisation of this chapter is as follows. In the first instance there is clarification of the terms health, disease and illness. Attention then turns to health status in the later years. Finally, the findings presented and discussed show the medical and psychiatric problems of the sample as well as those pertaining to their use of GSH.

10.1 REVIEW OF LITERATURE

10.1.1. DIMENSIONS OF HEALTH, DISEASE AND ILLNESS

Health, disease, and illness are related concepts that apply to people of all ages. They have been subject to a great deal of debate and have been used in a wide variety of ways. The concern in this section is the clarification of these concepts. Firstly, there is consideration of some of the most often cited definitions of health. This is followed by a overview of various perspectives on disease. Finally the concept of illness will be examined in the context of illness behaviour.

(i) Definitions of Health

Perhaps the best known definition of health is that adopted in 1946 by the World Health Organisation: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (Caplan et al 1981:83).

This definition draws attention to a nonphysical aspect of health. However, it has been widely criticised (Engelhardt 1981:32; Ellis and Nowlis 1985:80; Hendricks and Hendricks 1986:154). The word "complete" is considered somewhat misleading in that it suggests an absolute standard, while the word "well-being" is considered ambiguous. In actuality, few people who are perceived by themselves and others as healthy, have achieved a state of complete and perpetual well-being. Furthermore there are other components of health. For example, Cooley and Shaffer (1982:14) refer to health as "integrated functioning oriented towards maximising individual potential while maintaining balance and purposeful direction in the environment". Health thus involves more than the self: it involves the relationship between wellness and the family, community, environment, and society.

Other definitions also highlight the functional component of health. Yet others, add a subjective component. To Parsons (1981:69) health is "the state of optimum **capacity** of an individual for the effective performance of the roles and tasks for which he has been socialised". Hendricks and Hendricks (1986:155) on the other hand refer to health as "a **modus vivendi** enabling imperfect men to achieve a rewarding and not too painful existence while they cope with an imperfect world."

King (1981:109) discusses the subjective component to health. He notes that health generally refers to something good and desirable, while disease implies something bad. Disease involves pain, disability and death. It concerns what is unpleasant or disagreeable. Health deals with the opposite and is subjective. The man who says "I feel just fine", may consider himself entirely sound. Conversely, he who complains of feeling "terrible" may think of himself as seriously ill. These subjective impressions are essential, and highly significant, but they are not entirely reliable. There is a need to distinguish between what "seems" and what "really is", between "appearance" and "reality". For example, there is the man who has periodic routine examinations, who passes all tests, who feels subjectively

fine, but suddenly drops dead. Or there is the man with no complaints at all but, cajoled into a routine chest x-ray, is found to have symptomless cancer. In both cases the men "seemed" healthy, and subjectively felt healthy, but in reality this was not the case.

The subjective component of health is embedded in social attitudes and beliefs. For example, a report of the Minister of Health in Great Britain (1973), refers to disease, handicap, death and ugliness (Wilson 1975:6), while the Xhosa word for health "impilo" is translated as "fullness of life". In its broadest sense it means being attuned to cosmic vitality: to this well-being belongs not only a healthy body but also a flourishing family and fat cows. Furthermore, "good health" to a tribesman is a highly valued asset, it implies having well-looking cattle with strong horns and well-developed buttocks, it implies that their children are free from witchcraft influences and that the mealie fields look promising (Van Rensburg and Mans 1982:186).

In sum, health is a state of well-being with multiple components. It implies successful adaptation to adverse conditions, including disease. Physiological as well as psychological, social, and cultural factors impact on health and place different demands on the human organism.

(ii) Perspectives on Disease

Fabrega (1981:495) has provided a logical analysis of concepts of disease from biological, behavioural and phenemonological perspectives.

According to the biological perspective, disease involves an abnormality in function and/or structure of any part, process, or system of the body. From this perspective psychiatric diseases occupy an anomalous and ambiguous status. Aspects of mental functioning such as feelings, impulses, drives, ego strength, psychological defenses, or those concepts which refer to social relationships, are not included. However, this framework is useful in that it enables universal and transcultural classification of specific diseases.

From the behavioural perspective any understanding of medical problems or disease must take into account the underlying processes and mechanisms of human functioning. This perspective is based on the following set of issues: (a) not all patients present for

evaluation and care with complaints referrable to recognised biologically altered processes or states; (b) some present with complaints that appear to be rooted in and defined by social and interpersonal factors; (c) many persons with complaints clearly linked to biological and social factors do not present formally for scientific medical care but instead seek other types of help or none at all; (d) the manner in which persons perceive, organise, and express disability, regardless of its origin, is embedded in behaviour, and the form of this behaviour is determined by social psychological, and cultural factors as well as by biological, ecological, or genetic factors; and (e) decisions affecting what persons do vis-a-vis disability are determined by behaviourally relevant priorities that are also diverse as to source.

The defining characteristics of diseases formulated within the phenomenological framework include changes in the states-of-being (e.g. feeling, thought, self-definition, impulses etc) which are (a) seen as discontinuous with everyday affairs, and (b) believed to be caused by socioculturally defined agents or circumstances. Thus individualistic statements judged to constitute disease might contain references to disturbed feelings, bodily sensations, beliefs regarding how the body functions, self-derogatory convictions, imputations of moral guilt etc which together would designate an altered conception or identity about the self. Biological indicators and behavioural parameters, although theoretically related and perhaps empirically embodied in this changed identity, are regarded as independent of the categorisation process.

Fabrega (1981:507) suggests that all of the above frameworks are alike in three principal respects. First the unit of categorisation is a discrete point in space, namely a person or organism. Second, disease is a qualitative state; that is, a particular instance of disease is described as if it were discontinuous or temporally bounded. Third, there is the implication that disease is an undesirable state insofar as it constitutes a deviation and can be a source of human misery and suffering. He refers to this view as "organismic". He suggests however, that this viewpoint should be broadened to include the view espoused by human ecologists.

Health and disease from the ecological, or unified perspective, as proposed by Engel (1962, 1977), are phases of a continuously changing multilevel set of processes (e.g.

cellular, chemical, physiological, behavioural) which at any one moment in time constitute human existence. From this perspective emphasis is placed on the way organisms attempt to resolve problems posed by the environment. Any failure is seen to create excessive energy expenditure and stress which in the long run is deleterious to the organism. This perspective carefully avoids the traditional concept of disease and views disease, not as a discrete and discontinuous state attached to an organism in space and time, but as a number of systems operating in articulation. Thus since life involves all levels of a complex hierarchically organised system of systems, the unified perspective conceptualises disease and its determinants holistically. Observable manifestations are systems showing different degrees of adaptation and equlibrium and a "symptom" or "sign" of dysfunction may occur at the biochemical level, the psychological level or the social level. Moreover, since the emphasis is on interconnected processes, temporal boundaries become less clear and relevant. But, although this may lead to problems in separating health from disease, there are advantages: it becomes no less correct, for example, to "locate" a disease in tissues or body fluids as opposed to, say, the relationships and motivations that contribute to the bodily alterations (Fabrega 1981:514).

(iii) The Concept of Illness Behaviour

Definitions of the term "illness" suffer from the same conceptual and practical drawbacks as the terms "health" and "disease". Thus, since this thesis is concerned with the use of hospitals by the elderly, a review of the illness behaviour by Mechanic (1981:486) is considered more appropriate.

According to Mechanic (1981:486) studies of selected populations of Americans found that the use of medical facilities is likely to depend upon a number of factors. He summarises these factors as follows:

(a) Class. Upper class persons more often report themelves ill than lower class persons, and are more likely to seek treatment when afflicted. Lower class persons, on the other hand, while having more actual symptoms, report themselves to be ill less often, and are the least likely to visit a physician.

(b) Social and cultural factors. It seems that English-speaking Americans prefer to use modern medical science and hospitilisation, and Spanish-speakers, folk-medicine, and family care and support. Moreover, Jewish or Episcopalian male students are more likely to express an inclination to use medical facilities than those who were either Christian Scientist or Catholic. These differences persist

within social class groups. This could, of course, reflect differences in response to pain. Jews and Italians would appear to respond emotionally to pain and tend to exaggerate their pain experience, while Irish and "old" Americans appear to be more stoic.

(c) Stress. Highly stressed (lonely, nervous) male students appear to be more inclined to use medical facilties than persons with lesser stress.

(d) Type of stress. Male students with interpersonal difficulties appear to be more likely to use medical facilities than those with stresses of similar importance (financial difficulties etc).

(e) Diagnostic categories. Four dimensions seem to be particularly important. These include: the frequency with which the illness occurs in a given population; the relative familiarity of the symptoms to the average member of the group; the relative predictability of the outcome of the illness; and the amount of threat and loss that is likely to result from the illness. Persons with a high tendency to seek medical care are those with diagnoses of "routine" illnesses. Routine illnesses were those categorised as more common, more familiar, more predictable and less threatening for example, respiratory tract infections.

Mechanic (1981:486) uses the concept of the "social role of the sick person" to explain these findings. He notes that when an illness has been legitimised by social sanction, or by intimates and/or persons with influence over the sick person, the persons occupy a special role in society. During the time of the illness they may be relieved of usual demands and obligations and the "sick role" takes priority over other social roles (e.g. occupational, familial). Moreover, they are expected to seek help in restoring their full energy, and to co-operate in the treatment process. Persons may be motivated to adopt the sick role to obtain release from various kinds of responsibilities; but there are also others who fear the dependence of the sick role, or who are suspicious of physicians and avoid seeking medical advice even when serious symptoms appear.

He also notes that assumption of the sick role when ill is likely to depend on a variety of group and personal factors. Age, sex and position in the social group, as well as the importance of the role for the group must be considered. If a man's failure to appear at work - even for one day - results in hardship for the family, it is likely he will avoid consulting a physician or assuming the sick role unless the symptoms become so serious as to prevent him from working; if time and money are available and a short departure

from usual roles impose no undue hardships, the person is more likely to seek medical advice, and relinquish the usual role demands.

Finally, Mechanic (1981486) points to the importance of learned behaviour. The behaviour may be learned for ideological reasons as with the Christian Scientist, or for practical reasons as with members of lower income groups. Thus the symptoms persons recognise as important, and those they ignore, largely determine when they appear for medical diagnosis.

10.1.2. HEALTH STATUS IN THE LATER YEARS

In this section there is consideration of illness in old age and the diseases of later life.

(i) Illness in Old Age

Illness, like health and disease, is partly a socially constructed notion and so may not correspond to the physical substrate. This is clearly demonstrated by the fact that old age in modern society tends to be conceptualised as an illness (Hendricks and Hendricks 1986:156). This leads to a form of ageism that sees the old as infirm even when they are not: an illness without a disease. This also means that physical changes that are caused by a disease may be perceived as part of the normal ageing process and left unattended when effective treatment is available. As has become clear functional impairment advances steadily with increasing age. McConnell (1988:12) notes that between 41-60% of those over the age of 65 years have some limitation of activity. Two to eighteen per cent of those over age 65 years require assistance in some activities of daily living.

Increased Vulnerability to Illness

The pathological conditions of later years tend to be progressive, leading to increased vulnerability, rather than to protective resistance as in younger individuals (Hendricks and Hendricks 1986:158).

Many potential pathogens enjoy a symbiotic relationship with their human host. The immune system has a role in maintaining this equilibrium. However, with ageing, there is a decline of immunocompetence (Ellis and Nowlis 1985:85; McConnell 1988:359).

With ageing there is an overall reduction in defence mechanisms, ranging from gross physical inadequacies to cellular immune response. The result is that the aged are predisposed towards auto-immune and immune complex mediated diseases, cancer and a gradual lessening of resistance to infections (Wicht 1990:34).

Chronic and Acute Illness

In later life the nature of illness may change and become essentially chronic, as opposed to acute. McConnell (1988:12) notes that 86% of the elderly have some chronic disease, many more than one.

Some **acute illnesses** such as the common cold, are characterised by sudden onset, predictable progression, and may not require medical attention. Other acute illnesses may be life threatening and require vigorous medical intervention. However, treatment is usually short term, and there may be no residual effects (Ellis and Nowlis 1985:85).

The U S Department of Health, Education and Welfare (1976) define a **chronic illness** as one that persists three months or longer, requires medical management, and is characterised by the presence of signs and symptoms. Its onset is slow, as is the recovery period (Ellis and Nowlis 1985:85).

Illness may have both acute and chronic forms. For example the elderly person who falls and fractures a hip becomes acutely ill and incapacitated. After stabilisation of the fracture, this same person may enter a time of chronic illness because the healing process in the elderly is slow. Individuals with chronic illnesses may experience acute episodes (exacerbations) which then resume their original chronic course (remission) (Ellis and Nowlis 1985:85).

Hendricks and Hendricks (1986:163) note that while older people continue to suffer at least one acute episode of illness every year, this represents a drastic decline from the actual number encountered at earlier ages. One significant change is that older people who have an acute condition are disabled longer. A similar pattern emerges for serious accidents: they happen less often but result in longer periods of recuperation. But, although serious accidents continue to decline among the elderly, the overall percentage

of accidents creeps up. Unlike the younger groups, who are more commonly involved in traffic accidents, two-thirds of the injuries to older people are a result of accidents around the house. Among older women accidents cause about four days of disability yearly, compared to about one day from accidents for men. As a consequence of their various health problems, older people have their activities restricted for nearly five weeks every year, up from the three and a half weeks for people in the forty-five to sixty-four age group.

These authors comment that many elderly find the aftermath of ill-health more threatening than thoughts of even their own death. But although many express a great deal of anxiety over possible dependency, this is not to say that all older people experience the same health-related problems or that those they do cannot be mitigated. They point out that women, nonwhites, and poor people appear to suffer more from ill-health in the process of becoming older.

Adaptation to Chronic Illness

Individuals can successfully adapt to chronic illness. McConnell (1988:14) notes that this involves assuming control over the management of the disease rather than relinquishing control to professionals. Assuming control involves:

- preventing and managing medical crises,
- managing therapeutic regimens,
- controlling symptoms,
- organising time efficiently,
- preventing or living with social isolation,
- adjusting to changes in the course of the disease,
- normalising interactions with others, and lifestyle, despite the disease.

Other people can foster adaptation if they:

- encourage patients to resume normal behaviours and responsibilities within the limits of the disability,
- expect them to retain control over management of the disease,
- encourage them to accept impairment, while capitalising on remaining capacities,
- help them to integrate into the society at large.

Adaptation can also be facilitated if:

- there is congruence between the old and new behaviours,
- the individual has the capacity to learn new behaviours,
- the motivation to adopt the impaired role,
- is prepared for the role, through rehearsal of the new behaviours, and finally, if
- there is a gradual transition from the well or sick role.

However, not all individuals with chronic diseases are able to master the competencies described above, or assume the impaired role. Those who do not assume this role experience a lower health status, because they fail to reintegrate themselves into society to the fullest extent possible, and they are more vulnerable to the adverse effects of chronic disease exacerbations (McConnell 1988:16).

(ii) The Diseases of Later Life

Hendricks and Hendricks (1986:165) point out that in later life multiple pathological conditions compound the problems of accurate diagnosis, effective treatment and sensitive care. Once older persons decide a visit to a physician is in order it is highly probable they will have a complex set of symptoms. Chronic conditions may also appear in unison. Moreover, persons do not really die of old age per se: they succumb to one or more specific diseases.

Common Primary Medical Diagnoses

McConnell (1988:14) lists the twenty most common primary reasons for consulting a primary physican for those aged 65 and older between January 1980-December 1981 in the United States of America. These are:

- essential hypertension,
- hypertensive heart disease
- other forms of chronic ischemic heart disease,
- osteoarthritis and allied disorders,
- other and unspecified arthropathies,
- diabetes mellitus,
- acute upper respiratory infection
- heart failure,
- bronchitis not specified as acute or chronic,
- chronic airway obstruction, not elsewhere classified,
- general medical examination
- other disorders of soft tissue
- neurotic disorders,
- cardiac dysrhythmias,
- acute bronchitis and bronchiolitis,
- ill-defined descriptions and complications of heart disease,
- peripheral enthesopathies and allied syndromes,
- gastritis and duodenitis,
- other and unspecified anaemias,
- cystitis.

As already noted disability is something apart from disease in old age and certain diseases are liable to be disregarded, even by relatives or by a doctor in constant attendance on an elderly invalid. Recovery from illness is also often slow, owing to intercurrent infections, or to debilitating conditions, acquired perhaps from a combination of medical and social factors. Conversely some old people make remarkable and quite unexpected recoveries from severe mental or physical impairment.

According to Adams (1981:27) those elderly who are over 70 years of age, live alone, are recently bereaved, disabled by locomotor disorder, and recently discharged from hospital are at high risk of disability from unreported illness. He notes that although it is seldom possible to cure much of the illness that is found, nonetheless discomfort can be relieved and the range of independence and interests widened.

Psychiatric Disorders

The evidence indicates that there is a mutual relationship between old age and disease; disease hastens ageing, and age renders the old person more vulnerable to disease. In the elderly physical disease and psychiatric symptoms correlate closely. Estimates show that in the United Kingdom 40% of the elderly (and especially those over 75 years) suffer some psychiatric impairment. With regard to hospital admission, organic vs. functional illness are represented in equal proportions (Potocnik 1985, 1990:130).

Gillis (1980:128) states that the psychiatric disorders of old age fall into a few well-defined groups:

- anxiety states and adaptational and neurotic syndromes,
- depressive illness,
- confusional and delirious states,
- senile deterioration (dementia),
- cerebrovascular psychosis (multi-infarct dementia),
- late paranoid states

Anxiety is a constant accompaniment of old age. It appears in all its usual syndromes, but its manifestations may be missed. It may appear as irritability, fatigue without adequate cause, restlessness, indecisiveness, or querulousness. Very often it appears in converted form as psychophysiological symptoms such as hyperventilation, swallowing of

air, spastic conditions of the bowel, indigestion, abdominal pain, diarrhoea, asthma, tension headaches, hypochondriacal whining, and/or arthritis which waxes and wanes with mood (Gillis 1980:128; 1982:406).

Gillis (1982:408) suggests that anxiety is often caused by life stress and diminishing personal resources than by medical disorders. These include practical problems, insecurity, change, loss and frustration at not being able to manage independently. However, the underlying cause may have to be winkled out of the old person who may hide it as a matter of pride, fail to mention it because it cannot be altered, or simply, supress it because it is too painful to think about.

Depression is the most common psychiatric disorder in the elderly, affecting 20-30% of individuals, and may be multifactorial (Potocnik 1990:131).

Physical stresses ranging from viral infection to Alzheimers and certain drugs may precipitate depression. However, psychological stresses are usually more important. Predisposing factors consist of an inherited predisposition, traumatic childhood experiences, and bereavement during childhood. Obsessional, conscientious introverted personalities, who are unable to display their emotions easily, are especially at risk (Potocnik 1990:131).

Minor degrees of depression are very frequent and are seen by family doctors as lassitude, lack of interest, apathy or complaining behaviour and hypochondriasis. More severe forms are also common. In severe cases agitation tends to predominate but retardation and apathy also occur. The patient becomes restless, can see no hope, develops nihilistic ideas, feels he is "stopped up" etc. There may also be ideas of guilt and unworthiness, diurnal variations and a family or previous history of depression. Suicide is always a real danger. Retarded depression shows with slowness, constipation, insomnia and hypochondriases (Gillis 1982:129).

Confusional states, or delirium are the next most common group of conditions, accounting for the largest proportion of those admitted to a psychiatric hospital (Gillis 1982:402). In a local study, Gillis et al (1981:150) found that confused behaviour was the

most frequent reason for requests for admission to a psychiatric hospital. Silbert (1981:294) states that the manifestations are an acute onset of confusion, clouding of consciousness, with intellectual impairment, disorientation for time or place, restlessness, and possibly delusions and hallucinations, particularly of the visual type.

Dementia is the last major blight of the elderly (Gillis 1982:409). Dementia is a syndrome consisting of extensive brain disease impairing memory, personality and intellect in an alert patient. The impairment must be sufficiently severe to interfere with occupational or social functioning (Potocnik 1990:134).

The incidence of dementia in the general population varies from 3% for 60 year olds, to 5% at 65 years, up to 20% among 80 year olds. Recent indications are that it rises progressively with age, and may attain an incidence of close to 40-50% in 90 year olds (Potocnik 1990:134).

10.2. PRESENTATION OF FINDINGS

It has become clear that health, disease and illness are related concepts with multiple components. Determining health status is thus difficult. As people age it becomes even more difficult. Pathological conditions tend to become progressive leading to increased vulnerability, and the nature of illness essentially chronic, thus although treatment may relieve discomfort, complete recovery may be unattainable.

Against this backdrop, the findings presented in this section include: (i) the medical and (ii) psychiatric problems of the respondents; (iii) the type of transport used to get to GSH (iv) if, and where, respondents were sent after admission to the EU, (v) if, and by what department, they were being followed-up at GSH, (vi) the use of, or need for, functional aids, and finally, (vii) their previous overnight admissions.

10.2.1. MEDICAL PROBLEMS

The medical problems of the elderly patients were sub-divided into the "major" and "secondary" relevant medical problems.

Three (1%) patients had no major relevant medical problem, while 79 (22%) had no secondary relevant medical problem (Table 48). On average patients had 1,4 secondary relevant medical problems.

TABLE 48: MAJOR AND SECONDARY MEDICAL PROBLEMS

Major Medical Problem			Secondary Medical Problem		
	N	%		N	%
Cardiovascular	119	33,24	Cardiovascular	175	49,44
Pulmonary	72	20,11	Diabetes	59	16,67
Gastro-intestinal	63	17,60	Pulmonary	58	16,38
Other	34	9,50	Musculo-skeletal	40	11,30
Neurological	16	4,47	Gastro-intestinal	37	10,45
Cerebrovascular	14	3,91	Cerebrovascular	34	9,60
Renal	12	3,35	Other	28	7,91
Diabetes	12	3,35	Renal	25	7,06
Musculo-skeletal	8	2,23	Neurological	11	3,11
Endocrine	5	1,40	Endocrine	10	2,82
No major problem	3	0,84	Dermatological	8	2,26
			Unspecified Malignancy	3	0,85
			No secondary problem	79	22,32
Total N = 358 Frequency Missing = 4			Total number of problems = 488 Total N = 354 Frequency Missing = 8		

The most common recorded medical problem was cardiovascular (294). The rank order of the remaining specified problems is as follows: pulmonary (130), gastro-intestinal (100), diabetes (71), cerebrovascular (48), musculo-skeletal (48), renal (37), neurological (27) and endocrine (15).

(i) Medical Problems and Population Group

Differences in the range of medical problems between the population groups were examined and the following trends noted:

Primary Medical Problems:

Out of 63 blacks, 233 coloureds/Asians and 59 whites with a major relevant medical problem:

- 25 (42%) whites, 80 (34%) coloureds/Asians and 14 (22%) blacks had a cardiovascular problem.
- 20 (32%) blacks, 13 (22%) whites and 39 (17%) coloureds/Asians had a pulmonary problem.
- 13 (21%) blacks, 43 (18%) coloureds/Asians and 7 (12%) whites had a gastro-intestinal problem.

Secondary Medical Problem:

Out of 39 blacks, 194 coloureds/Asians and 42 whites with secondary relevant medical problems:

- 30 (71%) whites, 127 (65%) coloureds/Asians and 18 (46%) blacks had a cardiovascular problem.
- 7 (18%) blacks, 25 (13%) coloureds/Asians and 2 (5%) whites had a cerebrovascular problem.
- 13 (33%) blacks, 12 (29%) whites and 33 (17%) coloureds/Asians had a pulmonary problem.
- 10 (24%) whites, 25 (13%) coloureds/Asians and 5 (13%) blacks had a musculo-skeletal problem.
- 7 (17%) whites, 27 (14%) coloureds/Asians and 3 (8%) blacks had a gastro-intestinal problem.

(ii) Medical Problems and Physical Self Maintenance Activities

It has become clear that there is a relationship between disease and functional impairment. In this study possible relationships between medical problems and physical self maintenance activities (PSM Scale scores) of 240 respondents were examined.

The major medical problems were collapsed into four categories: (a) cardiovascular, (b) pulmonary, (c) gastro-intestinal, and (d) all other problems. While the data was inadequate for statistical analysis of the six PSM categories (toiletting, feeding, dressing, grooming, physical ambulation and bathing) was not possible, those relating to the PSM scale total scores were found to be significant (Appendix 4: 1, 5).

Similar problems were experienced regarding the relationship between having a secondary medical problem and the PSM scale scores. However, once again, only statistical analysis of the total scores was possible, but the differences were not statistically significant (Appendix 4: 2, 5).

(ii) Medical Problems and Activities of Daily Living

The relationship between medical problems and the activities of daily living (IADL scale scores) was also examined.

The findings presented in Appendix 4: 3, 4 and 6) show a significant relationship between having a major medical problem and the ability to prepare food as well as the IADL scale total scores. A significant relationship was also found between having a secondary medical problem and shopping and laundry abilities.

10.2.2. PSYCHIATRIC PROBLEMS

According to the records 37 (10%) of the 354 patients had a diagnosed and relevant major psychiatric problem, while two (1%) had relevant secondary psychiatric problems - one of whom had two types of problems. The range of psychiatric problems is presented in Table 49.

TABLE 49: MAJOR PSYCHIATRIC PROBLEMS

Psychiatric Problem	N	%
Confused/Delirious	15	4,24
Demented	10	2,82
Alcohol/Drug Abuse	5	1,41
Other	3	0,85
Depression	2	0,56
Anxiety	2	0,56
No Problem	317	89,55
Total	354	100,00

Frequency Missing = 8

(i) Psychiatric Problems, Morale and Cognitive Functioning

The relationship between psychiatric problems and morale and cognitive functioning has been noted earlier (p. 199). In this study no significant relationship was found between psychiatric problems and the total scores for either the PGC Morale Scale or the MMSE (Table 50).

TABLE 50: MAJOR PSYCHIATRIC PROBLEM, PGC MORALE SCALE AND MMSE TOTAL SCORES

	Major Psychiatric Problem					
	Yes		No		Total	
Total Scores	N	%	N	%	N	%
PGC Morale Scale:						
00-11	4	1,83	64	29,22	68	31,05
12-21	17	7,76	134	61,19	151	68,95
Total[1]	21	9,59	198	90,41	219	100,00
MMSE:						
00-16	8	3,70	24	11,11	32	14,81
17-33	12	5,56	172	79,63	184	85,19
Total[2]	20	9,26	196	90,74	216	100,00

[1]p = 0,211

[2]p = 0,001

Frequency Missing = 143

Frequency Missing = 146

10.2.3. TRANSPORTATION TO GSH

By far the largest proportion (69%) of patients travelled to GSH by ambulance. The two patients recorded under "other" were sent to the EU from Outpatients (Table 51).

TABLE 51: MODES OF TRANSPORT USED FOR ADMISSION TO EU

Transport Used	N	%
Ambulance	248	68,51
Private Car	101	27,90
Taxi	10	2,76
Other	2	0,55
Bus	1	0,28
Total	362	100,00

10.2.4. TRANSFER AFTER ADMISSION

Of the 114 (31%) patients transferred to other wards after admission to the EU, most (62%) were transferred to the medical wards (Table 52). The six patients transferred to other hospitals, were transferred to: GF Jooste Convalescent Hospital (3), Somerset Hospital (1), Brooklyn Chest Hospital (1), Victoria Hospital (1). The breakdown of the "other" wards is: Radiotherapy (4), Haemotology (1), Urology (1), and Ear Nose and Throat (1).

TABLE 52: TRANSFER AFTER ADMISSION

Location	N	%
Sent Home/Admitted to EU Ward	231	63,81
Medical Wards	71	19,61
Surgical Wards	21	5,80
Died in EU	17	4,70
Other GSH Departments/Wards	7	1,93
Intensive Care Wards	6	1,66
Other hospitals	6	1,66
Psychiatric EU	3	0,83
Total	362	100,00

10.2.5. FOLLOW-UP AFTER DISCHARGE

Referrals to Day Hospitals and other health care institutions were not recorded. As far as could be ascertained from the hospital folders of the 276 respondents, 164 GSH follow-up appointments were made. Some respondents may have had appointments for more than one department. The breakdown of these follow-up appointments is as follows:

- Medical (General or Medical) Outpatient Department (152)
- "other" department (8)
- Physiotherapy Department (3)
- Occupational Therapy Department (1)

The breakdown of the eight "other" department follow-up appointments is as follows: Opthamology (3), Otolarynology (1), Chiropodist (1), William Slater (1), Urology (1) and Orthopaedic (1). Only three patients had follow-up appointments at a Medical Outpatient clinic and another department (Urology, Orthopaedic or Opthamology).

(i) Transportation to GSH for Follow-Up Appointment

Unless bedridden, or chair bound, outpatients must use their own transport to get to GSH. The findings show that out of the 240 respondents:

- 103 had Medical Outpatient appointments. 68 (50%) of this group had no private transport.
- The one patient with an appointment for the Occupational Therapy department had no private transport.
- Two out of three patients with Physiotherapy Department appointments had no private transport.

(ii) GSH Outpatient Attendance and Use of Day Hospital and/or Private Doctor

The findings show that out of 231 respondents:

- 27 (12%) had a GSH follow-up Outpatient appointment yet used both the Day Hospital and a private doctor.
- 35 (15%) had a GSH follow-up appointment yet used the Day Hospital.
- 43 (19%) had a GSH follow-up appointment yet used a private doctor.

10.2.6. PREVIOUS OVERNIGHT ADMISSIONS

According to the computer records and folders, out of the 360 respondents, 168 (47%) had one or more overnight admission during the year preceeding the present admission to the EU (Table 53). Of the 38 (11%) who had been admitted three or more times, one had had four previous admissions, and one five.

TABLE 53: PREVIOUS OVERNIGHT ADMISSIONS

No. of Previous Overnight Admissions	N	%
No previous overnight admissions	192	53,33
One	86	23,89
Two	44	12,22
Three or more	38	10,56
Total	360	100,00

Frequency Missing = 2

10.2.7. FUNCTIONAL AIDS

Table 54 shows patients' use of, or need for functional aids. Of note is the large proportion (46%) of patients who perceived they required, or needed new, spectacles.

TABLE 54: USE OF, OR NEED FOR, FUNCTIONAL AIDS

	No Use		Has One		Needs Replacing		Requires One	
Functional Aid	N	%	N	%	N	%	N	%
Spectacles	42	17,42	89	36,93	11	4,56	99	41,08
Hearing Aid	206	85,48	8	3,32	1	0,41	26	10,79
Walking Stick	162	67,22	57	23,65	-	-	22	9,13
Walking Frame	236	97,93	2	0,83	-	-	3	1,24
Wheelchair	221	91,70	13	5,39	-	-	7	2,90
Artificial Limb	235	97,51	3	1,24	-	-	3	1,24
Dentures	73	30,29	122	50,62	1	0,41	45	18,67
"Other"	226	93,78	14	5,81	-	-	1	0,41

Total N = 241

Frequency Missing = 121

10.3. DISCUSSION OF FINDINGS

In view of the fact this is a study of hospital patients and that the pathological conditions in later life tend to be progressive and lead to increased vulnerability, the finding, that most of the sample elderly suffer from one or more medical problems, is to be expected. The fact that most elderly persons are likely to have a complex set of symptoms and that recovery is often slow owing to intercurrent infections, or debilitating conditions may also explain why such a large proportion of respondents (31%) were admitted to other wards or hospitals, and why 42% had medical outpatient follow-up appointments and 47% had a previous overnight admission. These findings are also to be expected in view of the policy of GSH to screen the more serious problems admitted to the EU in the Ante-room, which was the unit of analysis for this study. Finally, the finding that 69% of the sample travelled to GSH by ambulance is to be expected in the light of the earlier finding (p. 161) that 57% of the sample use public transport. However, when these latter findings are viewed with the findings which show that over 10% use GSH in addition to the Day Hospital and/or a private doctor this would seem to be inefficient use of resources.

Geriatricians such as Galinsky (1992) and Whitelaw (1992) report that underdiagnosis of neuro-musculo-skeletal diseases is a world wide problem among university hospitals, especially diagnoses made at Emergency Units. The evidence points to the possibility that this may be the case at GSH. It is well known that neuro-musculo-skeletal disorders have a great impact on physical self maintenance in old people. In this study 31% of the sample required major assistance, or were totally dependent, as regards at least one major physical self maintenance activity, yet only 8% had either a major or secondary relevant medical problem, and 13% a major or secondary musculo-skeletal problem.

Underdiagnosis of psychiatric disorders would also appear to be a problem (Galinsky 1992; Whitelaw 1992). Again the evidence would suggest that this may be the case in this study. For example, a diagnosis of dementia was recorded for 3% of the sample yet the findings show that over half (56%) of the sample had Mini Mental State Examination (MMSE) total scores of 24 or below. Whilst it has been argued that many other factors may have contributed to these findings nonetheless as noted on p. 103 most of the

publications on the MMSE suggest that total scores of between 0-23 indicates disturbance of cognition.

Other psychiatric disorders may also have been overlooked. Although patients with predominantly psychiatric symptoms are sent to the psychiatric emergency unit on presentation at GSH, they can present in a converted form. As indicated on p. 200 anxiety and depression may appear in the form of spastic conditions of the bowel, abdominal pain, diarrhoea, constipation and arthritis. In this study, only 10% of the sample has a diagnosed and relevant major psychiatric problem, yet over 25% suffered from a gastro-intestinal, and 13% from a musculo-skeletal disorder.

Although there may have been underdiagnosis of neuro-musculo-skeletal disorders nonetheless the profile of medical problems of the sample show similarities to the most common primary medical diagnoses of Americans. However, differences are apparent between the population groups. Different lifestyles and habits may, of course account for these findings. From the literature review it has become clear that health and illness depends on the dynamic interplay of external and internal resources. They are a consequence of the reciprocal influences of normal physiological ageing and a wide range of psychological, social and environmental factors. The findings which show a relationship between functional impairment and a medical problem are to be expected and need no further comment. However, the finding that 130 (56%)respondents indicated that their vision was impaired even with the use of spectacles, yet only three had a recorded follow-up appointment at the Opthamology Department, warrants further discussion for two reasons. Firstly, this trend is also observed with regard to hearing, although to a lesser extent. Second, on p. 189 it was noted that health is more than the absence of disease - it includes the absence of infirmity and involves physical, mental and social well-being. Functional impairment as a result of hearing and sight loss must have an impact on physical, mental and social well-being.

These findings point to the need for more comprehensive assessment of geriatric patients at GSH. While incomplete assessment may be acceptable for those who only attend the EU, which is extremely busy, these findings show that a large proportion of the patients are admitted overnight on more than one occasion, are sent from the EU to other wards,

and/or attend on an outpatient basis. In these settings patients could be screened more comprehensively.

As a way to ensure that elderly patients are screened more comprehensively better linkage between the Geriatric Unit consultants at GSH and primary care physicians is needed. In addition increased education in geriatrics and psychogeriatrics among physicians and medical students would help.

Within the hospital setting, comprehensive assessment should be undertaken before patients are discharged. It is an essential component of the discharge plan, the major emphasis of which is to reduce unnecessary days in the hospital and to avoid inappropriate placement (Coulton et al 1982:253). In fact, Pear (1988) writing in the New York Times makes the point that discharge planning is "critical not only to the health and safety of patients but to the hospital from a fiscal point of view.... If the planning process is not adequate, the length of stay may increase, the patient may be released to an inappropriate level of care, require readmission to the hospital or suffer the loss of gains made during the initial hospitalisation. In addition, the hospital may increase its risk of liability if discharge planning is not appropriate".

Coulton et al (1982:254) explain why discharge planning is effective. They refer to it as a process of "emotional inoculation", whereby an appraisal of alternatives and their consequences, especially the negative ones, prepares the individual to cope with set-backs and doubts after the decision is made. They note that by use of this approach, which makes use of reassurement or other cognitive strategies, the fear, depression, anxiety, and regret which may follow the decision is reduced.

Coulton et al (1982:254) also refer to research on learned helplessness. They point out that early studies suggest that a lack of control leads to passive behaviour or early death in both non-human and human subjects. However, they note that more recent studies suggest that the impact of lack of control on individuals is moderated by their beliefs about the causes of that lack of control. Thus, for example, if personal failure is viewed as the cause and depressive reaction would probably result. Although there is still considerable debate about the usefulness of learned helplessness as an explanation for

depression, there is evidence that for some individuals, motivational deficits and subjective feelings of helplessness are associated with the experience of being unable to affect outcomes. These characteristics have often been observed in elderly individuals who have been forced to move or give up their autonomy.

Finally, Coulton et al (1982:254) point out that discharge planning enables people to achieve a closer fit with their environment. After careful consideration of alternatives elderly persons are more likely to select the alternative most suited to their perception of their own needs and desires. In this way a closer fit between person and environment is achieved which in turn has a positive effect on the physical and mental health of the elderly individual, particularly those in long-term care.

There are however, drawbacks. Coulton et al (1982:254) note that not all patients are amenable to discharge planning. They point to studies of a variety of decision making situations which suggest that under some circumstances, decision making will be characterised by defensive avoidance rather than an active search and appraisal. This defensive avoidance may take several forms, including procrastination, allowing others to make the decision, or rushing into the most obvious alternative. A study of psychiatric patients by Christ (1984:186) also found that major discharge planning problems arose amongst people whose living situation must be changed and those who required placement, as well as those aged between 71-90 years, who are widowed, have no social supports, have families strongly opposed to postdischarge plans, and are likely to need placement. Problems are also likely to arise amongst people with relatives who cannot, or will not, care for them for an interim period, and finally, amongst those needing placement but whose financial situation is unattractive to the providers of services.

Despite the drawbacks discharge planning provides a means whereby hospitals can provide a more efficient service and the health needs of elderly populations can be fully met. It provides the means by which patients and their families can be included in the decision-making process as it is not something done **by** professionals **for** patients: it is a collaborative process which provides a link to the community. Physicians, nurses, dieticians, occupational therapists, social workers, speech therapists, physiotherapists and

pharmacists may all be involved. But while it is not run by any one profession, it should be co-ordinated by the hospital social worker.

Marcus (1987:39) explains why social workers should be used as co-ordinators of any discharge plan. He notes that discharge planning encompasses a broad spectrum of social work methodologies, including the clinical and organisational techniques of social work intervention. Additionally, social workers have the ability to understand and act on both the macro and micro level of intervention. On the macro level social workers are knowledgeable about current health care policy, organisational trends, and transfer procedures. Methods of intervention used by social workers which relate to this level of activity include programme development, advocacy, and the creation of new forms of interorganisational collaboration. On the micro level, social workers are skilled in the assessment of the status and needs of the patient and family. They are capable of undertaking forms of intervention that offer appropriate responses and support.

Use of the social worker as a co-ordinator of discharge planning is based on the assumption that a hospital employs social workers and that they have the time to undertake these activities. GSH does in fact employ social workers. However, the findings of this study show that only 14% of the sample population consulted a GSH social worker. While it could be argued that this figure indicates that they do not have the time to be involved to any great extent in discharge planning, nonetheless there is evidence to suggest that this is not the case: rather that social workers have an inaccurate perception of their role in a hospital setting. In a notice circulated to the medical personnel with whom she works, Van der Walt (1991) states she is not utilised to her full potential. This is hardly surprising. An Editorial in the South African Medical Journal (1980:430) speaks of the hostility of doctors towards social workers. This attitude is not likely to change when notices are circulated to medical personnel by the GSH social work department suggesting that social workers are not there to address **social** problems, such as housing, employment, financial and placement, and providing information as to how medical personnel can help patients themselves (Social Work Department 1991).

Part of the problem can perhaps be attributed to the fact that social workers may perceive discharge planning as a low-status activity. Discharge planning involves the

provision of concrete services and does not require the use of high-level treatment skills. Moreover, because hospital stays are short in most cases, discharge tends to be a case of perfunctory "body-moving" rather than a "process", which poses a conflict in values for social workers who subscribe to choice, readiness, and self-determination. Other factors may also play a part, particularly as regards the elderly. In general, social workers often do not view work with the elderly as challenging or rewarding. Because youth is glorified in a modern society the aged are seen as low-status occupants. In turn, social work with the elderly becomes an unrewarding and unfulfilling low-status activity. Finally, there is also the question "is it worth doing". The investment of time, money, energy, empathy, and understanding may have little "payoff" as the elderly are "on their way out" (Kulys 1983:183; Grossman et al 1979:412).

However, discharge planning is, as Kane (1980:2) points out "one of the most intellectually demanding, skill-dependent activities in the social worker's repertoire. Few time-limited social work interventions have such significance for better or worse, particularly when the discharge plan may be lifelong institutional care". In fact, as Schreiber (1981:48) points out discharge planning should be the overall focus of any hospital social work department and is the key to the future. The evidence suggests that in fact GSH social workers can, and should, invest more of their energies and commitments to discharge planning. Such activities can only help to optimise the health and well-being of patients which in turn will benefit their families and friends, hence be of value to society at large. Moreover, it will contribute to the more efficient running of the hospital and earn for the social workers the respect of busy medical personnel.

CHAPTER 11

HEALTH AND HOSPITAL CARE IN OLD AGE

In the review section of this chapter, which is a continuation of the last, literature pertaining to health care, the health care system in South Africa, a classification of South African Hospitals, and utilisation of health care services by the elderly will be examined. The findings showing the factors related to readmission will then be presented and discussed.

11.1. REVIEW OF LITERATURE

11.1.1. HEALTH CARE

Health care can be described as a complex part of a social system composed of individuals needing health care and a variety of individuals and/or groups who provide direct or peripheral services aimed at meeting these health care needs (Murray and Zentner 1975:38).

(i) Levels of Health Care

Health care or treatment can be divided into various levels, such as acute and chronic care; primary, specialised, and inpatient care; or primary, secondary and tertiary care. Murray and Zentner (1985:39) describe each of these as follows:

Acute or short-term care refers to treatment given for conditions which are of rapid onset and of brief duration.

Chronic or long-term care refers to treatment given over time for an illness which may not be curable but may be controlled with treatment.

Primary care or prevention has been classified as ambulatory care, screening for and identifying potentially harmful factors or practices, preventing and treating acute diseases and disability, managing common chronic disorders, guiding and counselling persons/families, plus personal preventive measures. **Specialist care** is given by specially trained practitioners, usually to those people who need secondary care, who are too ill, or who have distinct problems that cannot be handled in a primary care setting.

Inpatient care is provided in institutional beds, such as a hospital, extended care facility, or nursing home, and is normally supervised by a primary or specialised practitioner. This situation is also called **secondary care or prevention** because the person has either an acute or chronic illness that needs early treatment so that disease duration is shortened or complications are prevented.

Tertiary care or prevention involves treating and reducing the sequelae or complications of an illness, fostering return to whatever productive capacity is possible, aiding readjustment to the condition, and maintaining whatever health remains. It may be given in the inpatient setting and is often considered chronic care. Rehabilitative measures may be implemented and may or may not be successful.

Ossler (1985:283) notes that if primary prevention is lacking or ineffective, certain members of a population will interact with illness-producing stimuli. These individuals undergo sub-clinical changes that may lead to acute or chronic illness. The purpose of secondary prevention is to identify those individuals as soon as possible and effectively intervene with the disease process to minimise the adverse effects and control complications. This prompt intervention is usually associated with a shorter duration of illness. The goal of this type of activity is to minimise the number of days of disability and the need for acute or inpatient care. The third level, tertiary prevention, occurs as the course of illness moves into resolution. The goal here is to minimise loss of function and to return recovered individuals to society at an optimal level of wellness.

(ii) Community and Personal Health Services

Health care can be divided into community health and personal health services. Murray and Zenter (1985:38) describe the differences. Community health services are directed

toward maintaining health in groups of people, while personal health services deal directly with the person/family in health promotion and maintenance or disease prevention.

Services can be both communal and personal in nature. For example indivudals are immunised and the community at large benefits. Community services have a preventive aim; personal services are often curative or restorative in nature because treatment is emphasised.

11.1.2. THE HEALTH CARE SYSTEM IN SOUTH AFRICA

A macroscopic view of the South African health care system consistently reveals a close relationship and interdependence between health care and the overall position and character of this society. Thus the situation closely resembles that of a developing society, characterised by the co-existence of traditional and modern structures. On the one hand, modern Western medicine permeates the entire social structure and serves all population groups; on the other hand, traditional or tribal medicine is still well established and is relatively popular among the black population.

(i) Traditional or Tribal Medicine

The system of traditional or tribal medicine emphasises the supernatural nature and cause of disease. Consequently the entire organisation of tribal medicine is surrounded by a typical magic-religious aura, centred on the figure of the traditional healer. Its strongest support is found in rural, tribal areas of South Africa, particularly in black homelands.

Traditional medicine is based on the premise that specific powers, such as the power of ancestral spirits or witchcraft are capable of enhancing or depleting vital power and causing the individual to become well or ill. Severe illness thus testifies to an imbalance of cosmic powers and a reduction of vital power in the diseased person which must be restored by the use of specific potent agents, in which ingredients derived from insects, reptiles, animals, birds, man, solid substances and especially plants play an important role. These medicines each impart specific power, the most potent medicines being made from portions of the human body (van Rensburg and Mans 1982:186).

The task of tribal medicine is to define the causes underlying this imbalance, drive out the evil influence or counteract the effect of witchcraft, thereby restoring integration and harmony between the powers.

The traditional health care system centres around the traditional healer, who uses white or benevolent magic to cure disorders. However, the role of the witch-doctor is not restricted to health and disease, diagnosis and healing. On the contrary, it covers a much broader spectrum and includes tasks such as rain-making, blessing newly appointed tribal chiefs, and the bringing of luck in a general sense. Thus there are different types of witchdoctors, including diviners, soothsayers, herbalists, blood-letters, sniffer-outers and the interpreters of dreams, who use a diversity of techniques in the process of diagnosis and cure, and who are known by different names in the various black languages and population groups (van Rensburg and Mans 1982:189).

Although diametrically opposite, there is no real conflict for blacks between Western medicine and traditional practices, and the situation tends rather towards a synthesis of these two systems. As Manganyi (1974:923) notes there are even indications that new forms of traditional medicine have consistently been developed to cope with the needs of modern blacks.

(ii) Modern, Western Health Care

Modern, Western health care in South Africa has two main components, a public and a private sector. It is, however, no easy task to define concisely the proportional share of each of these two sectors in the total care care in this country. Hospitals and clinics tend to be mainly in the hands of the public sector. General practitioners, medical specialists and dentists, tend to be mainly in the private sector (van Rensburg and Mans 1982:196).

Related to the above, and also characteristic of health care in South Africa, is the fact that it contains components of both socialised and free enterprise medical care. The latter renders services, provides facilities and other requirements in terms of the free market mechanism, whereby services are rendered for payment. The provision of such services is strongly profit-orientated and hence the clientele of these services consists of the more affluent segment of the population, particularly the whites who avail themselves

of the health services provided by private entrepreneurs. The services, facilities and equipment provided by the socialised, or public sector, are financed by the central government and provided collectively (van Rensburg and Mans 1982:196). The public sector provides health care at a significantly subsidised fee, mainly to the less privileged section of the population.

(ii) Problems with the South African Health Care System

The South African Health Care System, like all health care systems is not without problems. Some of the more important of these problems are examined below.

Low and Inequitable Expenditure on Health Care

According to Benatar (1990:441) in the late 1960s and early 1970s, South Africa experienced an economic boom yet despite the acknowledgement at that time, of the need to develop primary and community health services in order to improve the health status of the population, insufficient resources were injected into a badly planned health care system. This trend has continued and, in 1985, 4,9% of South Africa's gross domestic product (GDP) was spent on health services, compared to the United Kingdom's 5,9%, Australia's 7,8% and the United States' 10,7% (1984 figures). As the majority of persons in South Africa cannot afford private medical care, more striking in terms of international comparisons, is the low proportion of the GDP spent by the state. In 1985, this amounted to 2,5%, in contrast with 5,3% in the UK, 6,6% in Australia and 4,4% in the US. Even more striking is the amount spent on the poorest sector of the population by the state: this amounted to R248 per white person in 1985 as compared to R82 per black person (Savage and Benatar 1990:154).

Inadequate Provision of Primary Care Services

Not only has the expenditure on health care been low; Savage and Benatar (1990:157) point to the fact that the current organisation of South African health services tends to a curative rather than a preventive focus. This is borne out by the statistics. Although comprehensive figures are not available, in 1982 it was estimated that preventive services accounted for 4,5% of total health care expenditure. The situation is particularly bad in rural areas. Approximately 76% of doctors work in metropolitan areas, and 18% in small towns. In Johannesburg and Cape Town, where 11% of the population reside, there are

three medical schools and 40% of the country's doctors. Conversely, more than 50% of South Africans live in rural areas where only 5% of doctors practise. As a result of this maldistribution, access to health services in rural areas is extremely poor (Savage and Benatar 1990:154; Kirsch and Benatar 1983:8).

Fragmentation and Duplication of Health Care Services

The above problems are compounded further by the fragmentation and duplication of the health care system. According to Ijsselmuiden and de Beer (1990:161) health services are fragmented by health and Population Group legislation, and by public and private ownership of services. As they explain:

Health legislation is covered by the Health Act 63 of 1977. In this Act local authorities must provide preventive, promotive, and community rehabilitative services in their areas of jurisdiction. Incidental, curative or other services may be delegated to local authorities by State Health or by Province, on the basis of partial or total reimbursement for the provision of such services.

The Provinces are expected to provide hospital and out-patient services and, recently, laboratory services and community health services in areas where no local authorities are operative: these are the so-called "Section 30 areas".

State Health is expected to provide services for patients with chronic mental illness, school health, tuberculosis, family planning and sexually transmitted diseases. In addition State Health is responsible for national health planning and the monitoring of standards.

There is, therefore, an almost total split, with curative services on the one hand and promotive, preventive and rehabilitative services on the other.

The health services in any local authority area in which more than one population group resides, as defined in the Population Registration Act 30 of 1950, is not only divided on curative/preventive lines but also on the basis of "colour". This means that in Johannesburg, for example, responsibility for public health care provision was divided among the four Health departments, as well as the Transvaal Provincial Administration,

the City Health Department, and, to some extent, the two semi-independent "management committees" for the Asian and "coloured" areas. In other words there are eight authorities altogether.

Although the detail may differ for other local authorities, there is no place in the country where the provision of all health care is the responsibility of only one authority, with the exception of the so-called homelands.

Besides the confusion it creates among health care consumers this situation has led to extensive duplication of, and gaps between, services. Although the racial divisions have been scrapped, in the past this meant that whites only hospitals such as the Johannesburg, South Rand and J G Strijdom Hospitals were virtually empty, yet health authorities of "other colour" were expected to build new hospitals, such as the planned Soweto and Lenasia Hospitals. A more obvious gap is the total lack of ante- and perinatal services for black people living in Johannesburg.

There are other effects. It has resulted in staff shortages and lack of morale which have had a detrimental effect on the provision of services in areas with the greatest need. Whittaker (1990:298) notes that the Heideveld Day Hospital in the Western Cape, which offers a primary and preventive service to the coloured population, was capable of seeing upwards of 700 patients a day during periods of peak demand in the early 1980s. Now, due to staff shortages, at times it can barely manage 150 patients a day.

The fragmentation and duplication described above is further enhanced by a multitude of private clinics and hospitals.

Expense of Private Sector Care

Private medical care is expensive and can generally only be afforded by people with medical insurance. Savage and Benatar (1990:155) point out that in 1985 only 18% of the total population were covered by some form of medical insurance scheme, comprising 81% of the white population and less than 4% of the African population, whose coverage tended to be much more limited.

11.1.3. Classification of South African Hospitals

A useful classification of South African hospitals by type and ownership is outlined by Zwarenstein and Price (1990:448).

Types of Hospital

The four types of hospital in South Africa include:

- academic hospitals attached to university medical schools and with full specialist facilities,
- specialist hospitals, ranging from those with full specialist services to smaller hospitals with only one specialist,
- general hospitals, with at least inpatient medical, surgical and radiographic facilities,
- "other" hospitals - which includes hospitals not able to deal with the basic work of the general hospital.

The latter type of hospital may lack one or more of medical, surgical or radiographic facilities, and include tuberculosis and infectious diseases hospitals, convalescent hospitals and private surgical clinics with only a recovery room and a few beds.

Ownership of Hospital

In South Africa hospitals may be owned and run by:

- A provincial authority. There are four provinces: Cape, Natal, Transvaal and Orange Free State.
- A homeland authority. There four "independent" and six "self-governing" homelands.
- A Trust. Trust hospitals are situated in areas of South Africa due for incorporation into any of the homelands.
- The State. Certain hospitals, mainly those provding psychiatric and tuberculosis are operated by the central South African Government Department of Health.
- An Industrial corporation. Certain large industrial, agricultural or mining corporations own and run hospitals to provide care for resident workers.
- Private enterprise but with a subsidy from a local provincial authority. These are mainly found in the Cape Province and are state-subsidised and privately run for non-private local communities.
- Private enterprise. These fee-for-service hospitals are operated for profit.
- Other. The owners of other hospitals include: the South African National Tuberculosis Association (SANTA), a non-profit agency which provides tuberculosis care only; contractors who are private-for-profit corporations

contracting to provide tuberculosis and psychiatric long-stay care to the state authorities; the military authorities, which provide a full range of services to conscripts, professional soldiers and their dependants; a small number of charitable agencies providing a miscellany of services; and finally, the municipal local authorities, which provide some infectious-disease beds.

(i) Groote Schuur Hospital

An aim of this thesis is to provide information about the elderly who use GSH in an attempt to establish if there is a need for additional, and more cost-effective services. But, since it is clear that South African hospitals differ according to type and ownership and offer different levels of service, it is of central importance to determine the particular service offered by GSH.

Using the above classification of South African hospitals and the outline of health care (p. 215), GSH can be described as an academic, provincial hospital which provides subsidised health care predominantly to the less privileged sector of the population. For reasons of convenience and proximity the majority are drawn from the population of Greater Cape Town and environs. The service offered is primarily acute, or short-term, although patients with chronic conditions attend Outpatient clinics and may be admitted at times for diagnostic procedures or for better control over the illness. Thus, although offering specialist, or inpatient or secondary care, both primary and tertiary care is also offered.

The Emergency Unit (EU) of GSH which is the specific focus of this study, exists to provide a service to people who think they have an emergency medical situation requiring urgent attention and is open twenty-four hours a day.

11.1.4. UTILISATION OF HEALTH CARE FACILITIES BY THE ELDERLY

A need for medical care exists when an individual has an illness or disability for which there is an effective and acceptable treatment or cure (Newell 1977:107). It has become increasingly clear that a feature of the aged is that social problems often exist alongside, and impact upon medical problems. As Brearley (1978:178) has observed "...individuals

often present psycho-social problems to their doctors disguised as physical illness, and also frequently present overt social problems with no medical content...".

The reasons for this are varied. In this section there is a review of available literature pertaining to the use of health care facilities by the elderly.

(i) Under-Utilisation of Health Services

Available research indicates that the elderly tend to avoid contact with the medical profession if at all possible (Brody et al 1983:489; Kennie 1984:316; Krout 1984:280;). Consequently, in many cases by the time the patients presents he/she may be suffering from multiple and well-established conditions, which means they may require more extensive and inpatient treatment.

There are a number of reasons why the elderly tend to avoid contact with the medical profession. Some of these are examined further below.

Transport Difficulties

The elderly may be faced with transportation difficulties, due to functional impairment and expense, particularly when they live some distance away from the local clinic or hospital (Martine 1979:232). In Cape Town, for example, although ambulance services are available, a cost is levied which is dependent on the distance covered. Ambulance services for outpatient appointments at clinics and hospitals are only available to the bedridden and those with severe functional impairment.

Failure to Recognise Common Symptoms and Complaints

The elderly and/or their families may find it difficult to determine when and whether care should be sought and medical advice followed. As Brody et al (1983:489) point out many of the more common symptoms and complaints of the elderly have their origins in the physiological, psychological and social changes inherent in ageing. This is clear from the following list of more common symptoms discussed by Agate (1986:138), Huntley (1989:61), Regensberg (1990:48), Hendricks and Hendricks, 1986:175).

- Sensory disturbances (Hearing and Vision)
- Dizziness, Fainting, fits and attacks

- Weakness
- Repeated falls
- Sleep disturbances
- Constipation, Incontinence
- Acute confusion and disorientation
- Fatigue
- Headaches
- Oral and Dental Problems, including swallowing difficulties
- Malnutrition
- Breathlessness
- Oral and Dental problems
- Hypothermia

Even if the elderly seek medical advice there is the possibility that the physician may not recognise early signs of illness. Anderson (1976:1218) points out that the teaching of a single pathology which may be applicable to the young is certainly not relevant to medical care of the elderly. As noted above older people often suffer from multiple pathology. Illness can also present insidiously and atypically, for example an older individual may complain persistently of pain the back of the chest or neck, but has, in fact, a simple gastric ulcer with no complaint referable to the stomach. Kennie (1984:316) also refers to the lack of knowledge of the natural history of disorders in old age resulting in an absence of guidelines on when to intervene with health maintenance measures. As an example he refers to glucose intolerance in the elderly.

Inaccurate Perceptions of Health Status

Not only do the elderly tend to accept discomfort as a normal and expected part of ageing, findings show that they are pessimistic about possibilities for relief, feel that "nobody cares", and are reluctant to bother health care professionals or to worry family members (Brody et al 1983:495). Yet others may not be aware they should seek advice, either because of mental impairment or because the elderly are less sensitive to pain and less able to compensate for either excess or inadequate fluid intake (p. 71). Moreover, temperature regulation is often faulty and hypothermia may develop because the old person may not realise that the ambient temperature has dropped. During a febrile illness an old person may not develop a fever. Lastly, their hunger and thirst responses may be impaired.

Vulnerability to Adverse Effects of Drugs

Brody et al (1983:494) refer to findings which show that almost 20% of the patients entering the geriatric service of a general hospital show evidence of disorders directly attributable to the effects of prescription drugs. Another large study in the United Kingdom found that an adverse drug reaction was found to be solely or partly responsible for more than 10% of hospital admissions of older people. Suggested reasons for the admissions include the misuse of drugs, unclear explanations provided as to how the medicine is to be taken, patient noncompliance, interactions between drugs, the prescribing patterns of physicians, and the vulnerability of the aged to adverse drug reactions.

Similar findings were found by Bigby et al (1987:1035) in their study of emergency hospital admissions in the United States. However, the findings also suggest that multiple factors usually contribute to the need for hospitalisation. These include: poor patient compliance, a lack of adequate follow-up of abnormal symptoms, signs or laboratory test results. In fact, the lack of adequate follow-up was found the most frequent cause of hospitalisation in cases where it could have been prevented.

There are reasons why drugs cause may lead to adverse reactions in the elderly. The elderly are more susceptible to untoward side effects even with the most innocuous-appearing over-the counter-medication. Aspirin and other mild paid medications, laxatives, and sedatives can cause acute confusional states (Scott 1987:141).

The problem is compounded in elderly patients who use their medications incorrectly. As Paton (1984:84) points out, such errors are more common in the very old, in those living alone, in those with impaired memory, or in confused patients. Compliance is also reduced when the patient has not received clear instructions, when the patient has difficulty reading the label or in opening the bottles, and when multiple drugs have to be taken each day. He also points out that patients who do not take their medication as prescribed often hoard it, thus increasing the chance of later confusion over which drug to take.

A further problem is that of "doctor hopping". McConnell and Matteson (1988:516) note that older persons receive medications for various chronic illnesses from various physicians who may be unaware of one another. Meiring (1990:114) has observed that prescribers often lack sufficient knowledge of the drugs they prescribe, the exact nature of the pathology, the altered physiology in the aged which may contribute to alteration of the drug or drugs being taken, and of the adverse interaction between multiple drugs which becomes more common as more drugs are taken.

Predisposing factors leading to adverse drug reactions include age, sex, number of drugs taken (currently and previously) and previous adverse reactions to any other drugs. Women also consume more prescribed and over-the-counter drugs. Other predisposing factors include genetic differences in metabolism; a past history of allergic reactions; low lean body mass; impaired function of other organs, especially kidneys and brain; and finally, associated metabolic disturbances such as anoxia, anaemia or hypothroidism (Davison 1973:634).

(ii) Recovery and Rehabilitation Problems

Once ill, elderly patients experience more problems with recovery and rehabilitation for a number of reason, some of which are discussed below.

Hazards of Ageing

Reichel (1965:976) and Hunt (1980:61) point to the fact that rehabilitation in the elderly may be hindered by clinical or physiological phenomena associated with old age. The more important of these phenomena include: multiple disease, dehydration, acute brain syndromes, deficient temperature control, sensory anomalies, loss of postural balance, slower learning, memory loss, altered sleep patterns and drug reactions. It is also pointed out that examination of the feet may be neglected, despite the fact that minor foot deformities, calluses, bunions and plantar warts are common causes of reduced activity in old people and hinder rehabilitation.

Additionally, rehabilitation may be hindered by inappropriate bed rest. As noted on p. 66, ageing skin is more fragile and takes longer to recover when damaged. Bed rest may result in deconditioning and the development of contractures and pressure sores which

in turn may devastate and disable older persons and lead to depression with apathy toward the rehabilitation process (Hunt 1980:61).

Type of Nursing Care

The type of nursing care can also affect rehabilitation. In a study of traditional vs individualised nursing care Miller (1985:135) found that patients in traditional wards were, after one month, more dependent than comparable patients in individualised care wards. She notes that the indications were that nursing practices pushed patients into dependency. In the traditional wards patients were nursed in bed during the day, many more had catheters, open pressure sores, and were incontinent of faeces. In traditional wards nurses did not wait for patients to complete self care, and many areas of care tended to be overlooked, such as fluid intake, diet, mobility and so on.

Lack of Adequate Hospital Facilities

Recovery or rehabilitation may also be hampered by a lack of adequate hospital facilities. Sewpaul (1990:113) points out that in South Africa the range of hospital services in different hospitals is extreme - with some hospitals/wards that are fully equipped with group rooms; audio-visual aids, recreational facilities; occupational therapy; and the benefit of full therapy teams. On the other hand there are facilities that are extremely poor - where rehabilitation in the true sense of the word becomes impossible. She cites an extreme case where custom-built facilities used for animal (horse) accommodation, now accommodate black patients.

Poor Motivation for Rehabilitation

One of the problems associated with poor recovery amongst the elderly is that of poor motivation. Hesse and Campion (1983:586) note that motivation usually refers to the need, drive or desire to act in a certain way to achieve a certain end. They suggest that the reasons why the elderly become poorly motivated for rehabilitation include: (a) decreased capacity as a result of cognitive dysfunction; (b) decreased intensity to rehabilitate: despite therapy many patients are still left less functionally able and more dependent than previously; (c) reset drive regulation: many elderly, through a series of losses (age, occupation, function, health), may have become more comfortable with an increasing level of dependence and with decreasing physical autonomy; (d) age-specific

changes in cognitive functioning: they may appear unmotivated because they do not understand the rationale of the therapies which appear unrelated to for example, learning how to walk, dress or eat; and finally, (e) stress.

Berkman and Abrams (1986:99) and Berkman et al (1987:221) discuss the stress associated with hospital admission for elderly cardiac patients. Hospitalisation has been found to exacerbate their worst fears: loss of independent physical functioning, heightening dependence on family members, and concomitant loss of self-esteem. When this is accompanied by multiple readmissions the complex interplay between medical, psychological, and social factors affecting the patient, family and caregivers becomes intensified. The whole process, hospitalisation, discharge and readmission are not only emotionally difficult to handle but increase the risk of the patient becoming confused, disoriented and less able to manage the posthospital adjustments necessitated by the disease or condition.

(iii) Discharge Difficulties

Not only are the elderly prone to recovery and rehabilitation problems, discharge may be difficult for the following reasons:

Unfavourable Personal Capacities and Environmental Resources

Boone et al (1981:2) note that in the United States numerous research findings have found that length of stay is not only dependent on physical conditions, but also on personal capacities and resources in the environment. Christ (1984:179) has identified the major problems delaying the discharge of psychiatric patients of all ages as: (a) a need to change the living situation; (b) physical problems or symptoms, and financial or personal characteristics that make patients unattractive to the providers of crucial resources; (c) the need for placement, particularly for patients aged between 71 - 90; (d) widowhood; (e) lack of a support network; (f) strong opposition to postdischarge plans by patients and/or their families; (g) relatives unable or unwilling to manage the patient at home pending permanent placement; (h) long waiting lists for placements. Christ (1984:179) cited other studies supporting her own findings.

The lack of environmental resources is particularly bad in South Africa and as writers such as van der Merwe (1977:408), Tibbit (1979:646), Neethling (1987:1) note that many urgently needed hospital beds are blocked by elderly long-stay patients who cannot be discharged because they are not able to look after themselves, have no family and domiciliary services are not always available.

In South Africa it is also not just a lack of environmental resources which create discharge problems. A study by Hofmeyr and Meiring (1975:1616) found that the patients most likely to block beds in medical wards were those in their late seventies with no close relatives. Discharge was not possible for some because available children were either unable or unwilling to care for them. Many had a history of cerebrovascular accidents or chronic respiratory disease. Their functional state was very poor, and they were in need of help, even for simple living. The most important factor, however, was the mental condition of the patient: if the patient was of sound mind, care at home was usually possible, despite the stress and strain on all involved.

(iv) Readmission

From the literature it would appear that some patients are discharged prematurely and that this can lead to readmission. Premature discharge and some of the other problems which lead to the readmission of elderly patients are thus discussed below.

Premature Discharge

During 1990 the media has increasingly focused on the crisis facing the hospitals. Within the health care system acute medical hospitals typically offer the most expensive level of care. For example the Cape teaching hospitals of Groote Schuur and Tygerberg jointly absorb approximately half of the total health care budget for the province (Greenblo 1990:9). Not only are they expensive to run but they are facing a financial crisis. In order to manage financially their facilities and staff tend to remain the same, but there is an ever increasing demand for services. This has led to a dire shortage of beds which necessitates a rapid turnover of patients, frequently involving premature discharges. A further complicating factor is that at present the provincial hospitals face a serious shortage of trained personnel (Seedat 1990:3; Horler 1990:1).

Thus, while some patients block beds it would appear that others are being discharged too rapidly before rehabilitation and optimal health can be achieved, and despite the fact that there are minimal follow-up services available in the community. Tibbit (1979:646) cautions that when patients are discharged prematurely it may increase the chronicity of illness, impair the quality of life further and result in more frequent readmissions to expensive "acute" beds.

This was the finding of study by Schuurmans-Stekhoven et al (in press) of patients discharged from the medical wards of Groote Schuur Hospital. A relationship was found between the most dependent patients and/or those who should be in institutions and readmission within three months of discharge.

Decline in Mental Function and Stress

In a study of elderly American patients hospitalised with myocardial infarction by Berkman and Abrams (1986:101) two factors were found to be related to early recurrent readmission: a decline in mental functioning, and postdischarge stressful events. They also refer to other studies which show a positive relationship between social supports - family, friends, and community resources - and recovery.

Type of Community Services Used

A study by Victor and Vetter (1985:41) is of interest in that it found a relationship between the type of community service used and readmission. Readmitted patients used the medical services such as the district nurse or health visitor and the day hospital substantially more frequently than those not readmitted. However, those readmitted did not use domiciliary services such as meals on wheels and home helps as frequently. Patients who felt they were discharged "too soon" were also more likely to be readmitted as were patients with chronic disabling conditions. Although other characteristics such as sex, civil status, social class, age, household composition, living alone were also studied they were not related to readmission.

Combined Factors

Some studies would suggest it is a combination of factors which lead to readmission. Baribau-Braun et al (1979:356) studied psychogeriatric readmissions in the America and

found sex differences. For men significant predictors included the younger the age, the lower the education and contact with family, and the longer the duration of first admission. For women the only predictor was a higher degree of community involvement.

Studies conducted in Britain show similarities. Graham and Livesley (1983:103) found that readmission to a geriatric unit resulted from a combination of factors including: unavoidable medical deterioration, social problems, non compliance, inadequate rehabilitation and inadequate medical management both pre and postdischarge. Williams and Fitton (1988:786) found that the severity of the illness and difficulty with carers contributed to the readmission of elderly patients to a district general hospital.

Terminal Illness

As Korpi (1987:1094) notes a certain population of patients, often terminally ill, are readmitted to hospitals a short time after being discharged. Studies in Great Britain have shown that up to three months after discharge from acute and geriatric units between 12 and 44% of elderly patients die (Victor and Vetter 1988:157; Andrews 1986:9; Graham and Livesley 1983:405; Miller 1985:135). Other American studies show that even up to one year the mortality rate is over 20% (Robertson and Rockwood 1982:103; Reichel 1965:975).

According to Korpi (1987:1094) there is a simple reason why patients end up back in emergency rooms. In the majority of cases, families are not given appropriate support. They are not educated about simple health tasks, home health aids are not provided, and visiting nurses and social services not called upon to make house calls. Thus families cannot recognise early signs of impending disaster so the patient ends up in the emergency room very ill and in need of admission. He is of the opinion that these admissions would be entirely preventable if appropriate measures are taken. He notes that, based on his own experience, preventable admissions in some hospitals are at least as common as the total percentage of admissions due to medical reasons. As he points out Bigby et al (1987:1032) claim that in their study: "interviews were not done in 100 (15 per cent) patients who were too ill...".

This explanation may be too simplistic. The findings of a study of transfers to hospital from a long-term facility by Tresch et al (1985:826) show that terminal patients, or those whose stable state of health was so impaired that vigorous treatment was not warranted, were not sent to hospital. However, those who were admitted died within a short period after discharge. Moreover, multiple admissions were found to be even more a predictor of mortality.

11.2. PRESENTATION OF FINDINGS

From the literature review it was learnt that health care is a system which exists within a wider social system. It was also learnt that utilisation of health care services by the elderly is not always appropriate.

In order to establish if utilisation of GSH by their elderly patients is appropriate in this study an attempt has been made to identify factors which may precipitate their readmission. To do this statistical analysis was undertaken to establish which items in the questionnaire show a relationship to an overnight admission to GSH during the year preceding admission to the EU. However, for a number of items the findings are not valid because of inadequate data in some cells. Due to small numbers in some cells the findings show no observable trends. Thus, as the findings are presented in Appendix 5, only those factors found to be significantly related to a previous overnight admission as well as those which showing an obvious trend will be summarised below.

11.2.1. DEMOGRAPHIC CHARACTERISTICS

Only one finding was statistically significant. More (53%) coloureds/Asians than whites (30%) or blacks (40%) had a previous overnight admission (Appendix 5 - 1).

11.2.2. ACTIVITIES OF DAILY LIVING

Most of those items showing a statistically significant relationship to a previous overnight admission were found in this section, and in particular in the sub-test relating to the instrumental activities of daily living.

(i) Physical Self Maintenance Activities

The findings presented (Appendix 5 - 2) show only one item, bathing, to be statistically significant. Nonetheless, the overall trend, as the findings of items showing toiletting, eating, grooming and walking ability indicate, suggests that there may be a link between readmission and increasing dependency (Table 55).

TABLE 55: PHYSICAL SELF MAINTENANCE ACTIVITIES AND READMISSION

	% Readmitted			
Activity	**Dependent**	**Major Assistance**	**Minimal Assistance**	**Independent**
Bathing*	46	65	53	39
Toiletting	36	75	61	46
Eating	43	80	60	46
Grooming	53	48	67	45
Ambulation	45	43	57	43

* Statistically significant

(ii) Instrumental Activities of Daily Living

The findings in this section also point to the possibility that readmission may be linked to increasing dependency (Appendix 5 - 3). Out of the eight "ability" items, four (shopping, meal preparation, household tasks and laundry) were found to be statistically significant. In addition, the total scores were also found to be significant, while two further "ability" items (telephone use and transportation) also show a similar trend.

The findings relating to the IADL Scale total scores show that more of those respondents with scores of average or above (56%) than those with total scores of average or below

(40%) had a previous overnight admission. The findings which show the proportions in each of the four categories relating to "ability" are presented in Table 56.

TABLE 56: INSTRUMENTAL ACTIVITIES OF DAILY LIVING AND READMISSION

	% Readmitted			
Activity	**Dependent**	**Major Assistance**	**Minimal Assistance**	**Independent**
Telephone Use	43	54	64	45
Shopping*	55	43	44	16
Cooking*	53	55	29	38
Household Tasks*	54	47	45	21
Laundry*	53	62	46	17
Transportation	56	48	51	35

*Statistically significant

11.2.3. EDUCATION, OCCUPATION AND LEISURE ACTIVITIES

One item, participation in an outdoor activity/exercise, was found to be significant (Appendix 5 - 5). More (49%) of those respondents who did not participate in an outdoor activity/exercise (49%) than those who did (29%), had a previous overnight admission.

Although not significant the findings also show that compared to 75% of those respondents who participated occasionally in an outdoor activity/exercise, only 31% of those who participated several times a week, 13% who participated most days a week, and none of those who seldom participated, had a previous overnight admission.

Yet other findings, summarised below, show that compared to:

- 48% of those respondents who had visitors, only 25% of those who never had visitors had a previous overnight admission.
- 62% of those respondents who did not belong to a religious organisation, only 47% of those who did, had a previous overnight admission.
- 49% of those respondents who did not belong to a social club, only 33% of those who did, had a previous overnight admission. The findings also show that the attendance rate is of importance. Compared to all (100%) of those respondents

who seldom attended gatherings, only 33% of those who attended at least once a month, and 22% those who attended weekly, had a previous overnight admission.

- 64% of those respondents who listened to the radio or watched t.v. weekly, and 55% of those who responded "seldom", only 41% of those who responded "daily" had a previous overnight admission.

- 48% of those respondents with total scores of average or below, only 38% of those with an average or above total score had a previous overnight admission.

11.2.4. MORALE

Only one finding was significant (Appendix 5 - 8). More (66%) of those respondents who answered "worse" to the question "Would you say that your health is the same, better or worse than most people of your age?" than those who answered "better/same" (43%), had a previous overnight admission.

Although not significant nonetheless more of those respondents with a previous overnight admission answered:

- "Yes" (52%) to the question "Do you feel that things keep getting worse as you get older?" than those answering "no" (37%).

- "Yes" (48%) to the question "Would you say that your see enough of your friends and relatives?" than those answering "no" (31%).

- "Same/worse" (49%) to the question "Do you think as you get older, things are better, worse or the same as you thought they would be?" than those answering "better" (33%).

11.2.5. COGNITIVE FUNCTIONING

No items in this sub-test were found to be significant and no trends were observed (Appendix 5 - 10).

11.2.6. HEARING, EYESIGHT, WEIGHT, CO-OPERATIVENESS AND LUCIDITY

Only one item in this section was found to be significant (Appendix 5 - 12). More (55%) of those respondents with impaired eyesight, than those (41%) whose eyesight was rated normal, with or without glasses had a previous overnight admission.

11.2.7. FINANCIAL POSITION

Statistical analysis was not possible for those responses specifying from whom patients received help (money or goods) as some of the cells were too small (Appendix 5 - 13). As for the remaining items in this section, none were found to be significantly related to a previous admission. Despite this, an overnight admission occurred more frequently amongst more of those respondents with:

- monthly incomes of between R100 - R199 (37%), O - R99 (40%), and those with monthly incomes of R450 - R899 and R200 - R449 (52%), than those with monthly incomes of R900+ (15%).
- with a state pension (49%) than those without (39%).
- who did not belong to a medical aid scheme (47%) than those who those who did (23%).

11.2.8. HOUSING AND ENVIRONMENT

Although no items were found to be significant (Appendix 5 - 15) a previous overnight admission occurred more frequently amongst more of those respondents who:

- were living in their own (48%) or a rented (54%) house, in a rented flat (55%), housing unit for the aged (63%), or an old age home (50%) than amongst those living in a single room (33%) shack (25%) or other, which included single quarters or an institution (10%).
- had an inside tap in the home (49%) than amongst those without (37%).
- were living in homes with outside stairs or no lift (64%), than amongst those with no outside stairs or a lift (48%).
- were living in homes with no inside stairs or a lift (50%) than those without either (33%).
- lived alone (67%) than those who lived with someone (48%).
- lived with friends (75%) than those who lived with some other person (47%).
- boarded with "others" (63%) than those who lived with someoneelse (47%).
- lived in homes where they were the only adult (71%) than those who were one of two (48%), three (45%), four (48%), five (48%), six (57%), seven (25%) or eight (33%) adults in the home.

- shared a bed with a child of 18+ (50%) than those who shared with someone else (22%).
- who stated they did not feel safe where they lived (80%) than those who did feel safe (46%).
- had responsibilities in the home (49%) than those without (37%).
- were responsible for the cooking (75%) than those who were not (27%).
- lived in homes with a household member with a handicap (53%) than those without (38%).
- lived with a household member (including themselves) who had to take a prescription drug on a regular basis (48%) than those who did not (36%).

11.2.9. SUPPORT NETWORK

(i) Social Supports

Again although no findings were significant (Appendix 5 - 21) a previous overnight admission occurred more frequently amongst more of those respondents:

- with no children (100%) than those with eleven or more alive (29%) alive However, this did not mean that the numbers dropped with increasing numbers of children, since for example 65% of those with four children compared to 33% of those with five children had a previous overnight admission.
- in contact with their children (47%) than those who were not (25%).
- who only saw one or more of their children on average once a month (83%) than those who saw their children daily (45%), weekly (53%), or less than once a month (45%).
- in contact with their siblings (47%) than those with no contact (27%).
- with an adult in the home all day (67%) than those with no-one in the home day or night (54%). Other combinations showed a varying response: all the time (47%), mornings only (nil), afternoons only (35%), night-time only (50%).

(ii) Community Resources

Inadequate cell size precluded statistical analysis of data pertaining to the use of community services. However, statistical analysis was possible of data concerning social work services (Appendix 5 - 25). One finding was found to be significant. More (68%)

of those respondents who had seen a GSH social worker than those who had not (44%) had a previous overnight admission.

In addition, although not significant, the findings presented below show support for earlier trends that (a) contact with other adults and (b) regular medical check-ups increase the likelihood of readmission to hospital, while (c) social activity lessens the chance of readmission.

- More (67%) of those respondents who were visited by a District Sister, than those who had no need to be visited (47%), had a previous overnight admission.
- more (60%) of those respondents who used, and those with a need for (57%), a dentist, than those who had no need (46%), had a previous overnight admission.
- more (60%) of those respondents who had home help, than those who had no need for home help (46%), had a previous overnight admission.
- more (62%) of those respondents who would like to attend a social club, than those who would not (47%) and those who were members (31%) of a social club, had a previous overnight admission.

11.2.10. HOSPITAL DETAILS AND FUNCTIONAL AIDS

From Appendix 5 - 28 it can be seen that a significant overnight admission was significantly related to respondents':

- Having a secondary relevant renal problem. More (80%) of those with a secondary relevant renal problem than those without (47%) had a previous overnight admission.
- Having a secondary "other" medical problem. More (68%) of those respondents with an "other" secondary medical problem than those without (48%) had a previous overnight admission.
- Having a follow-up appointment at a medical outpatient department. More (53%) of those respondents with a follow-up appointment than those without (38%) had a previous overnight admission.
- use of spectacles. More (57%) of those respondents who needed spectacles, as well as amongst those who had them but felt they needed replacing (55%) or had them (46%), than amongst those with no use for them (24%) had a previous overnight admission.

Although not significant the findings show that more of those respondents brought to hospital by ambulance (68%), and those brought in a private car (48%) than those who came by taxi (10%) had a previous overnight admission.

11.3. DISCUSSION OF FINDINGS

It is clear from both the literature review and the wide range of findings presented above that health and hospital care of the elderly is the result of the complex interplay between medical, psychological and social factors.

Amongst the items found to be significant are those which show that elderly patients with a secondary renal and/or "other" pathology are more likely to be readmitted, as are those with a follow-up appointment at GSH or who were visited by a District Sister. On the basis of findings presented in the last chapter it was suggested that the elderly who attend the EU of GSH are chronically sick. These findings thus add weight to this suggestion.

But, before it can be stated definitively that this indicates that appropriate use is made of GSH by the elderly, other factors need to be taken into account. From the examination of the health status of the elderly (p. 195) it was learnt that the pathological conditions of later years tend to be progressive, that recovery is often slow, that it is seldom possible to cure much of the illness that is found, and that because it is not always easy to distinguish between normal ageing and disease treatable symptoms may be left unattended. Later it was learnt (p. 219) that the current organisation of South African health services tends to focus on cure rather than prevention and that there are too few primary and community health care services, particularly for the disadvantaged sector of the population. As GSH serves the less privileged sector of the population it is logical to assume, therefore, as other research findings have shown (p. 224), that by the time presentation occurs, some patients may be suffering from multiple and well-established conditions, which may require more inpatient treatment, while discharge may not be possible for others.

The evidence would suggest that these observations could, in fact, be true. Impaired functioning as regards bathing, shopping, food preparation, household tasks, and laundry, was found to be significantly related to readmission. But while illness may cause functional impairment, nonetheless as Dick et al (1978:892) point out it is not the disease or impairment per se which creates problems for the person. More often the problems relate to the subsequent loss or reduction of functional ability, the need to alter behaviour and performance, and the inability to maintain personal and economic independence.

This would appear, in fact, to be the case. The findings show that readmission is related to consultation with a social worker. The type of social problems addressed by social workers was not studied. However, Schuurmans-Stekhoven et al (in press) found that the problems of patients discharged from two medical wards at GSH addressed by the social worker in their order of frequency were: financial, discharge/care, support, employment, family, housing, need for institutional care, alcohol/drugs, emotional, investigation only, unclassified and marital.

Moreover, the findings in this study show that a previous overnight admission occurred more frequently amongst respondents with impaired eyesight, and those who perceived a need for new or replacement spectacles. As noted on p. 70, impaired eyesight is a feature of normal ageing thus is not necessarily a disease or illness requiring acute medical treatment.

The findings which show that a previous overnight admission was more likely amongst the lower income patients and those not on a medical aid are to be expected. GSH mainly provides a service to the less privileged sector of the community and to persons not on a medical aid. However, it is of interest that 49% of the sample use a private doctor and few patients belong to a medical aid. It is possible, therefore, that the GSH may be used by patients when they perceive a need for specialist treatment, which is expensive. House calls and visits to a doctor after normal working hours may also be considered expensive and in any event patients may not want to disturb doctors. After studying attendance at a Hospital Accident and Emergency Department in Britain Gupta et al (1985:25) made the point that "rather than trouble the busy general practitioner the elderly patient goes to hospital, which is manned for 24 hours".

On the other hand, the possibility exists that the elderly "doctor hop". If they do, there is the real danger that the older persons may receive medications from different sources with potentially adverse consequences. More effective discharge planning would, of course reduce the potential for these consequences.

In this study a previous overnight admission was significantly related to population classification. Coloureds/Asians were more likely to have had a previous overnight admission than blacks or whites. This is hardly surprising in view of the larger numbers of coloureds/Asians. A previous overnight admission was also more likely amongst persons who perceived their health to be worse than persons of their own age. This is also not surprising. It was noted earlier (p. 198) that individuals who do not adapt successfully to chronic illness experience a lower health status: they fail to reintegrate themselves into society to the fullest extent possible and are more vulnerable to the adverse effects of chronic disease exacerbations.

Finally, although not significant, nonetheless the findings suggest that readmission is more likely amongst respondents with no living children and amongst those with the least contact with their children and siblings. As regards having someone in the home, small and inconsistent differences were noted between the various combinations. Since readmission is significantly related to functional impairment it is thus possible that social support is only of importance when independence is threatened or becomes an issue.

In this thesis, and in the last two chapters in particular, an attempt has been made to establish if appropriate use is made of GSH by the elderly. Based on the evidence presented thus far this would not seem to be the case. While the elderly present as genuinely ill, health care or treatment is divided into various levels, with GSH providing the most expensive form of care: acute, inpatient and specialist care. Therefore, there is a strong possibility that, because of a lack of alternative levels of care, GSH is used inappropriately.

An attempt has also been made in this thesis to provide information which could be used to plan appropriate and cost-efficient services for the elderly. To do this it was necessary to take into account the needs and preferences of the particular population who use GSH

within the context of the wider society. Using the words of Lawton (1989:6) the findings presented can be summarised as follows: "It would seem ....first, that industrialisation and urbanisation foster people's wishes for autonomy. That has occurred in much of the world and certainly is in the process of occurring in the developing world. Second, some social support opportunities based on need are the responsibility of every society. Third, most people are embedded in strong family units who share with government responsibility for meeting the needs of impaired aged. Fourth, the interests of different generations are primarily shared interests. Fifth, the goals of well-designed social programmes should be directed explicitly at shared interests but they may be generation-specific in their details. Finally, any moves toward emphasising conflicts between generations are apt to be politically motivated and at variance with the solidarity that has been documented at the family level."

The last decade has seen worldwide recognition that if at all possible health care, and particularly institutional care for impaired people should be community-based. As Lawton (1989:6) notes this stemmed from the notion that effective assistance to impaired people could be delivered in their community residences at a lower cost than institutional care. He also notes, though, that a large-scale study undertaken in the United States failed to document less use of institutions or lowering of costs thereby tempering any hope that the use of institutions might be averted altogether. In South Africa, the position is somewhat different. Placement in an institution is out of the question for the majority of frail and sick elderly. There are simply too few institutions. Moreover, the prospect that this will change in the near future seems unlikely. The development of community-based and run services would thus appear to be the only solution in order to ensure that hospitals such as GSH are effectively utilised. From the evidence presented in this thesis it would also appear to be the most appropriate to their needs and preferences.

In Britain two types of day and temporary long-term community-based care services are well established. One, mostly offered by residential homes, provides the opportunity of day care support 7 days a week, and for temporary and intermittent fulltime care. This service enables carers to go out to work, families to go on holiday and relieves the strain on family unity. It enables individuals to remain in their own homes whenever possible rather than being cared for in a hospital or residential home. Furthermore, in line with

the existing policy towards health and welfare, it places the responsibility for care as near to individuals and their carers as possible (Spencer 1972:333; Wilcock et al 1982:101; Nevell 1990).

The second is a community based geriatric outpatient clinic service. This type of service either operates separately or in conjunction with a day centre which offers activities of a more social nature. Services provided by this type of clinic include medical, nursing and ancillary medical services. Patients attend because of need of one or more of these. These units may form part of a geriatric unit of a hospital, or they may provide a specialised community based geriatric service for the hospital (Spencer 1972:333).

Day and temporary care services are available in South Africa. In the area served by GSH, two hospitals offer a temporary holiday relief service for very frail and dependent patients. A few beds are sometimes available in old age homes. Social clubs and service centres, located predominantly in white residential areas provide day services of a more social nature. However, some service centres also offer limited medical and domiciliary services. The full range of services which can be provided by a service centre include: (a) a social work service; (b) a wide range of activities to cater for differing recreational and cultural needs; (c) a clinic where both preventive and curative services are available, as well as medical aids for loan; (d) a balanced midday meal, and meals-on-wheels service for those unable to attend the centre; (e) a visiting service; (f) a home help service; (g) a laundry scheme; (h) a chiropody, physiotherapy and occupational therapy service (i) a hairdressing service; (j) a shop for sale of goods to augment income of members, raise centre funds, and enable members to buy goods at reasonable prices; (k) a transport service (Broomberger 1982:29).

These services do not, however, appear to meet the needs of the population of elderly who use GSH. Thus, using the British model but adapting it to meet the prevailing economic climate and the present infrastructure of South African society, the development of small daycare community-based units offering medical, nursing and ancillary services for the care of the frail and elderly would appear to be the most appropriate. At this stage in the conceptual process such units would ideally have the following features:

- A day care centre consisting of one or two large rooms which could be used for social and recreational purposes by members of the community who could come on a monthly, weekly, or even a daily basis. Each unit would thus need to have the use of a combi or a local taxi service.

- Consulting rooms for use as an outreach clinic by health professionals such as the district sister, doctors, occupational therapists, social workers, chiropodists etc. who would find the centre a convenient and cost efficient way of reaching patients. The combi, or local taxi service, could also be used to transport patients to and from the centre.

- The running of such a centre could largely be undertaken by semi-skilled staff assisted by the indpendent elderly and volunteers from the community.

- Ideally the units would need to fall under the umbrella of existing organisations within the informal sector, such as the church, existing welfare organisations. However, since hospitals such as GSH would support and benefit by the existence of these units it is important that any development be organised from within the formal section. In this way problems of long-term planning, effective co-ordination and standardisation currently experienced in the provision of services to the aged will be minimised.

The provision of this type of service has many advantages. The need for more expensive "acute" care facilities is likely to be reduced as the problems of premature discharge, early readmission, and/or the blocking of "acute" beds can be addressed. Since their transport difficulties will be minimised such services may also provide an incentive to the elderly to seek help before expensive and extensive treatment is required. Treatment and therapy could also be managed in a more cost effective setting. Patients could remain with their families thereby maintaining family traditions and bonds. Caregivers would be able to obtain some relief from the burden of care. Finally such units will be more able to deal with the needs of the aged and will stimulate and utilise natural aid networks such as family, friends, neighbours and volunteers.

CHAPTER 12

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this final chapter the study is summarised, conclusions reached, and finally, recommendations made in the hope that these will prove of use when services are planned for the elderly.

12.1. SUMMARY

The summary of this study is divided into six sections: introduction and theoretical perspective; research design and methodology; reliability of questionnaire; demographic structure of the population; the ageing process; and use of health care facilities by the elderly.

12.1.1. INTRODUCTION AND THEORETICAL PERSPECTIVE

This study is the first of its kind undertaken at Groote Schuur Hospital. It is an attempt to provide a holistic profile of their elderly patients with a view to encouraging further and more specific research, and to providing information which could be used when planning efficient health care for the aged. The study was based on the premise there is an interrelationship between the ageing process and disease and that a non-disease-specific approach which focusses on the functional status of elderly patients can be used as a predictor of health services consumption. Another premise is that any study which promotes understanding of the dynamics of health care of the elderly must also take into account the ageing process and its effect on a particular population within a specific social context.

The biopsychosocial model provides the frame of reference for this study. This model is based on the systems theory and conceptualises life as a living system comprising a complex hierarchy of organised systems within systems.

According to this perspective the process of ageing encompasses specific age-related changes at various levels in the three major components of the human system. The three major components comprise: (i) the biological component, which is made up of subatomic particles, atoms, molecules, organelles, cells, tissues, organs and organ system and the nervous system; (ii) the psychological component which includes experience and behaviour; and (iii) the social component consisting of one to one relationships, family, community, culture, society and the biosphere.

From this perspective, no one component is any more or less important than another. Furthermore, change or disruption at one level will impact on functioning at all levels within the system.

Moreover, change is expected, is time-dependent, and varies from individual to individual, and ultimately there is a decline of efficiency or functioning to the point where homeostasis can no longer be maintained and dependency or death ensues.

12.1.2. RESEARCH DESIGN AND METHODOLOGY

From December 1986 - June 1991 the writer worked as the Social Worker for the Geriatric Unit of Groote Schuur Hospital (GSH) which provided the setting for this study. Prior to its implementation, a pilot study was conducted in the Geriatric Outpatient Clinic at GSH. Selection of the Ante-room of the Emergency Unit (EU) as the unit of analysis followed. The design of this study is both descriptive and exploratory. The population selected comprised all patients aged 65 and over admitted to the Ante-room of the EU of GSH during the 52-week period 1 March 1989 - 27 February 1990. A random sample of nine patients per week was selected from the total population.

Two adult, female researchers, using a structured, standardised questionnaire consisting of sub-tests, utilising indexes and scales, interviewed, wherever possible, respondents

and/or families/household members in their own homes within one month of the admission to the EU. The questionnaire was constructed in English and questions, when necessary, asked in an open-ended way. Data, such as medical problems and the number of previous admissions was obtained by the writer from the hospital files of the sample after the interviews had taken place. Checks were continually made to ensure conformity and to discuss problems. Scores were checked twice, the first time with both researchers.

Not all questionnaires were used for analysis purposes. Due to the random sampling procedures 91 patients were selected for interview by both researchers. By means of random selection only one of the two completed questionnaires was used. Other reasons for non-inclusion included untraceability, or the subject being under 65 years of age. Some respondents were selected again on a subsequent admission. In this event only the questionnaire pertaining to the first visit was used.

The entering and statistical analysis of data was undertaken by the Institute for Biostatics of the Medical Research Council. Checking of entered data was undertaken by the writer who was also actively involved with analysis.

12.1.3. RELIABILITY OF THE QUESTIONNAIRE

Using those questionnaires completed by both researchers on the same patients, the Kappa test of reliability was used to quantify the interrater and intertest reliability of items in the questionnaire. The findings were presented as they appeared in the sub-tests. Of those items tested and found to be valid the following were of particular note:

- Functional Aids: Of the eight items included in this sub-test, three were found to be invalid and five, reliable.

- Physical Self-Maintenance (PSM) Scale: Overall, the findings of this sub-test, which has been used in countries such as the United States of America, were respectable. All seven items were found to be reliable.

- Instrumental Activities of Daily Living (IADL) Scale: This sub-test, also used in other countries, was extended to include ability and need. The eight items relating to ability, as well as the total scores, were found to be reliable. As regards need, these were variable. Of these eight items, five were reliable.

- Leisure Activities: The nine items in this sub-test involved participation and frequency. Seven participation scores were found to be reliable, but only two of those relating to frequency.

- Philadelphia Geriatric Center (PGC) Morale Scale: Although extensively used and found to be reliable and valid in other countries such as the United States of America, the interrater and intertest reliability of this sub-test was not respectable under local conditions. Only four items out of twenty-two were found to be reliable. However, of these four items one, the total score, showed excellent reliability.

- Mini-Mental State Examination (MMSE): Like the PGC Morale Scale, under local conditions reliability of the MMSE was not found to be respectable. Seven individual items were found to be reliable as well as the total scores.

- Hearing, Eyesight, Weight, Co-operativeness and Lucidity: Of the four items with valid scores, two, eyesight and co-operativeness, were reliable.

- Housing and Environment: Overall intertest and interrater reliability of items relating to housing and environment was respectable. Forty-six of the items were reliable, four unreliable, while for eleven the statistical test was not valid.

- Financial Position: Of the items tested one was unreliable. The remainder showed excellent intertest and interrater reliability.

- Informal Support Network: Eleven items were found to be reliable, and four unreliable. These four concerned the frequency of contact.

- Community Resources: Valid findings were available for seven out of seventeen items. Of these seven, five were found to be reliable.

- Social Work Services: Only one out of the five items was found to be reliable.

Overall, intertest and interrater reliability showed great variability. The findings relating to PGC Morale Scale and MMSE, in particular, were not respectable. It was suggested that measurement error due to semantic or cultural differences, social desirability bias, language barriers, functional impairment, inadequate data and lack of validity of items may have contributed to this phenomenon. The validity of IADL Scale, although found to be reliable, was also questioned.

It was noted that comprehensive assessment using these or similar tests has been shown to improve diagnosis, assist with planning for therapy and evaluation, and help towards the most appropriate use of services, thus determining optimal placement. It was also

noted that inadequate assessment may lead to inappropriate placement in an institution. Ongoing research and the development and use of geriatric assessment programmes were proposed as ways to minimise this problem. The general usefulness, as well as the structural and functional components of geriatric programmes were then discussed.

12.1.4. DEMOGRAPHIC STRUCTURE OF THE POPULATION

Demography provides information which promotes understanding and aids planning of services. In Chapter 4, the focus was to provide an understanding of the changing demographic structure of the South African population and to compare it with the sample population. It was learnt that changes are taking place in the age structure of the South African population insofar as the population is growing older but at differing rates for the four major population groups, Asians, blacks, coloureds and whites. The influence of fertility, mortality and migration trends were examined in order to determine the extent of these changes. The potential impact of AIDS on demographic forecasts was also examined and it was seen that, due to AIDS mortality, family members, mostly women, may be obliged to care for many children by the turn of the century. Using a classification of populations it was possible to explore the different societal patterns which exist amongst the population groups. It was noted that whites are the most modernised and blacks the least, but that this position is changing rapidly as increasing numbers of blacks become urbanised. The sex differential in ageing was also explored and possible environmental and biological factors contributing to the longevity of women were presented.

The findings of this study showed that there was an even spread amongst the four age groups, 65-69, 70-74, 75-79, 80 and upwards. The findings also show that slightly over half the sample were female (57%), and that the majority were coloured (63%), had no partner (63%), were born in South Africa/Homelands (90%), and had been living in the Western Cape for over ten years (91%). The relationship between population group and age, population group and sex, marital status and sex, was examined. The relationship between population group, age groups and sex was not found to be significant. More coloureds/Asians and blacks than whites were also found to have been born in South

Africa/Homelands, while fewer blacks than the other population groups had been living in the Western Cape for over ten years.

Compared to the total South African population, proportionately more elderly attend the EU of GSH. Note was made of the fact that this supports previous conclusions that the likelihood of hospital admission increases with advancing age. Note was made of the fact that proportionately more coloureds were admitted to the EU. This was expected in view of the spread of the population: most coloureds live in the Western Cape. Again it was pointed out that this situation is likely to change with the rapid urbanisation of blacks. The high proportion of males admitted was also discussed: comparisons were drawn with other findings and note was made of various explanations to account for this phenomenon. Finally, in view of the differences between the age structure of the sample population and the total South African population, as well as the anticipated future changes, it was pointed out that there is a need for ongoing research.

12.1.5. THE AGEING PROCESS

This study was motivated out of an identified need to provide a profile of the elderly population admitted to GSH. Since ageing is a complex, dynamic biopsychosocial process which leads to a progressive generalised impairment of function, an understanding of the ageing process was considered integral to this thesis. Ageing also proceeds at different rates for different individuals thus an understanding of the inter- relationship between physiological, psychological, cultural and social factors was also considered of importance. Thus before presenting and discussing the findings of this study pertinent literature was examined.

(i) Physiological Changes

From the review of literature pertaining to the skin, locomotion and support, the sense organs, and internal systems it became clear that the age-related changes ultimately impair functioning. However, it became clear that environmental factors including diet, living conditions, exercise, drug intake, and stress can influence the rate that change occurs and the extent of the impairment. But ultimately the ageing organism becomes progressively less able to adapt and death must inevitably result.

The findings in this study show that although over half (52%) the sample were totally independent as regards all aspects of physical self-maintenance activities, only 7% were fully independent as regards the instrumental activities of daily living. At the other end of the scale 5% were totally dependent for both sets of activities. The findings also show that over 90% have no need to undertake any of the instrumental activities of daily living, 72% had someone around who would give them their medication if necessary, 66% had no need to use public transport, but that only 29% had a telephone in the home. Differences were, however, apparent between the population groups as more whites were totally independent as regards these activities.

In the discussion, although comparisons with other populations were considered to be of limited value, nevertheless the similarities were noted. It was proposed that, compared to the physical self-maintenance activities, greater effort was required to undertake the instrumental activities of daily living. Also proposed was the possibility that the high degree of dependency as regards the instrumental activities of daily living may well have, in part, reflected cultural expectations or practices as much as need.

(ii) Morale and Cognitive Functioning

Cognition is the processing of information, while personality, an omnifarious term, encompasses all varieties and forms of behaviour. The changes which occur as people age within these two aspects of the psychological component of a living system were examined. It was found that there is a great deal of cognitive variability in later life. Possible explanations were discussed. Factors considered important include education, fatigue, health and nutritional status. Three facets of personality were also examined. Two, personality traits and self-concept, were found to remain constant throughout life. The theories and findings relating to subjective well-being, the third facet, are somewhat contradictory and suffer from methodological difficulties. However, evidence seems to point to an association between morale, personal adjustment and activity levels.

Most publications recommend that a Mini-Mental State Examination (MMSE) score of between 0-23 indicates disturbance of cognition. The findings in this study show that over half the patients had scores of 24 or below. Proportionately more with lower scores were blacks. As regards morale, just over half (54%) had above average Philadelphia Geriatric

Center (PGC) Morale Scale total scores. Again more blacks had low scores than the other population groups. The findings also show that hearing impairment was present amongst 29%, and visual deficits amongst 56%, while 19% were overweight, 44% underweight. Finally, the majority (95%) were both co-operative and lucid when responding to questions.

In the discussion difficulties with testing the cognitive state of hearing impaired persons and those with visual deficits were explored. Other factors also affecting responses to the MMSE were noted and include: low education, irrelevance, unrealistic expectations, and socioeconomic status. Using available evidence it was suggested that respondents appear to have resolved the psychosocial crisis of later life, and/or maintained a feeling of worth. However, it was also suggested that subjective well-being may well be a personality trait. Finally, the diagnostic validity of the MMSE and PGC Morale Scale was discussed. It was pointed out that they are of use in a medical setting but that caution should be exercised in their use. If at all possible they should be administered by trained persons and used in conjunction with an accompanying manual.

(iii) The Aged in Society

The position the aged hold in society affects the nature of the support they receive as well as the way in which resources are distributed. Examination of literature revealed that the South African population is generally placed into one of two categories; modern or traditional. In both categories the elderly are revered and respected at the micro-social level. However, in a modern society at the macro-social level the aged are at best viewed ambiguously. It was suggested that in South Africa the negative impact of modernisation is, and will continue to be, mitigated by the existence of strong family ties and religious bonds. It was ascertained that retirement from paid employment in later life is one of the reasons why attitudes towards the elderly have changed. It was pointed out, however, that in South Africa a large proportion of the population never retire as they live in rural areas sustained by a traditional, agricultural, and subsistence economy.

Once people retire they have a great deal of discretionary time. Thus in this thesis factors equated with successful adaptation to retirement were reviewed, as well as the leisure activities of older people. Health status, socioeconomic position, environmental

factors, and personal factors were all noted to play a role in determining the types of activity chosen by older people.

The findings which were presented show that 69% of the respondents had no schooling or left school before, or on completion of primary school whilst the majority (75%), had for the major portion of their working lives been employed in unskilled or semi-skilled positions. Only three (1%) were still employed. As regards leisure activities it was shown that the majority (74%) had below average total scores indicating a low level, and/or narrow range, of activities. The most common leisure-time activities included having visitors, membership of a religious organision, and watching television/listening to the radio. The findings also show that activity levels increased with the level of education attained. Finally particular note was made of the strong positive association between the PSM and IADL Scales total scores.

In the discussion it was suggested that there does appear to be some consistency in the configuration of personality types in relation to activity levels as shown in the literature. The possibility that this population of aged are reconciled to the ageing process was again mentioned, as was the possibility that church membership may have contributed to the high morale scores of the sample. The reason for respondents engaging in largely home-based activities was explored and attention was paid to the fact that the respondents may be economically constrained. Unfavourable environmental factors and physical disability were also suggested as contributing factors. Finally, it was suggested that the elderly should be encouraged to engage in regular physical activity as this could only benefit their health status.

(iv) Economic and Housing Situations

Information about the economic position and housing situations within the context of society is central to holistic understanding of an aged population and to the planning of services. On consideration of the sources from which the South African aged derive their income, it was established that most people do not take steps to provide for their retirement years thus are dependent on the state for an income. State support is low and family support may not be forthcoming because of widespread poverty and unemployment, particularly amongst coloureds, Asians and blacks. No change was

envisaged in the medium term due to the economic crisis currently facing South Africa. Ways to address this situation were examined and included the implementation of a national, obligatory, transferable, and non-withdrawable pension fund, backed up by a welfare pension as a safety net. Other suggestions included subsidising children to care for their parents and the granting of permission for the erection of granny flats.

Three types of housing situation were reviewed in this thesis. It was shown that the majority of the elderly live in mainstream community housing by choice. The housing conditions of the majority of South Africans was examined and found to be inadequate. The possibility of elder abuse arising from the combination of the increasing dependency of the aged and the inadequacy of the conditions was explored as was the burden of care. Mention was made of the different types of age-segregated housing available. The disadvantages of this type of housing were enumerated. These include the need for physical changes and distance from kin in times of need. Finally, the impact of relocation as well as the difficulties and obstacles facing residents in institutions were addressed.

In view of the findings presented above it came as no surprise to learn that most (82%) of the sample were in receipt of a state pension, and that there were differences between the population groups: 54% of whites, 92% of coloureds/Asians and 93% of blacks receiving these. In most (86%) households there were other sources of income whilst 27% had additional outside material or financial help. Children were the major source of additional income. Monthly income and leisure activities as well as monthly income, morale and population group were also examined. No significant relationship was found in the latter, while the former showed that proportionately more of those respondents with the lowest incomes had average or below average leisure activity total scores.

The findings covering the housing and environments of the sample were broad. Contrary to expectation the overall impression gained was that most respondents lived in homes with sufficient amenities such as electricity (90%), inside toilet (79%), electric or gas stoves (89%), and refrigerators (89%). There was little evidence of overcrowding and lack of privacy. Thirty-seven per cent shared a bedroom and 6% a bed, often by choice. The homes were by and large situated within easy reach of shops, transport and medical facilities; safety was not an issue; 47% lived in homes they, or their families, owned; and

43% had the use of a private car. Differences were noted between the population groups. By and large blacks were less adequately provided for. In addition, the findings show that 13% of the respondents lived with someone with a handicap and 88% indicated that they, or a family member, needed medical follow-up and used prescription drugs regularly.

The discussion, while noting the favourable situations of the sample, nonetheless pointed to the need for retirement planning. The reasons for the favourable situations were also explored. It was suggested that respondents were of a somewhat higher socioeconomic status than the overall population, and that they were in better health. As a result of the findings attention was drawn to the complexity of the ageing process. It was pointed out that ageing populations are not homogeneous, and there is a need to take into account the specific characteristics of a particular population in order to understand it.

(v) Support Networks

The strength, range and use made of informal support networks by the elderly in modern and traditional societies, as well as the position relating to the provision of support services by the formal sector of South African society was reviewed. It was learnt that in both types of society well-established social support networks exist. It was also learnt that the provision of formal support, although wide ranging, is limited and inequitably distributed amongst the four population groups. Despite the relative advantages enjoyed by whites over the other population groups, community and domiciliary services for them are inadequate and have developed unilaterally. Too much emphasis has been placed on the development of old age homes. A brief discussion was presented. Two solutions were proposed: long-term care insurance and a guaranteed basic income.

In line with the literature review the findings show that the sample of all population groups have well-established informal support networks: 98% were in contact with their children, 85% with their siblings and 96% with other kin/friends. In emergencies and in times of need (help when sick, help with shopping when sick), these provided almost all the help required even to those with a high degree of dependency.

The findings also show that the sample have little or no use for resources other than the Day Hospital or their private doctor. As was expected, proportionately more blacks and

coloureds/Asians than whites used the Day Hospitals. The reverse was the case as regards use of private doctors. Of those showing a high degree of physical self maintenance dependency only 17% were visited by the District Sister. Finally, pertaining to the use of social workers, the findings show that 70% know what a social worker does, though only 25% had ever seen a social worker, 14% of this group at GSH, while 57% were satisfied with the service they received.

The results of this study as regards financial and moral support mirror other findings. It was suggested that a number of factors may contribute to the fact that respondents have little use for formal support services. These include lack of availability, beliefs, pride and cost though the evidence suggests that this may change in the future. It was stressed that, if social ties are to be maintained, and the evidence points to the importance of such ties, then governmental and non-governmental institutions will need to assist. However, before such aid is provided consultation with the aged and their families is required to minimise the danger that it is misdirected.

12.1.6. USE OF HEALTH CARE SERVICES BY THE ELDERLY

Examination of various dimensions of health, disease and illness revealed that these interrelated terms are not only determined by physiological factors but are influenced by psychological, social and cultural factors. An examination of health status in the later years followed and it became clear that there was a mutual relationship between old age and disease and that (i) old age in modern society tends to be conceptualised as an illness, in that the old may be perceived as infirm even when they are not; (ii) the pathological conditions of later years tend to be progressive, leading to increased vulnerability; (iii) the nature of illness may change and become essentially chronic, as opposed to acute; (iv) adaptation to chronic illness is possible; (vi) the elderly who cannot adapt or assume the impaired role experience a lower health status and are more vulnerable to the adverse effects of chronic disease. Finally, attention was paid to the diseases of later life, including common primary medical diagnoses and psychiatric disorders.

This was followed by a review of literature pertaining to health care, the health care system in South Africa, and South African hospitals. It was noted that there are different levels of health care: acute or short-term, chronic or long-term, primary care or prevention, specialist care, inpatient or secondary care/prevention, and tertiary care or prevention.

An examination of the prevailing health care system in South Africa followed. It is characterised by the co-existence of traditional and modern structures and it is evident that a number of problems exist in the provision of modern health care. These include: low and inequitable expenditure on health care services, particularly primary and community health, fragmentation and duplication of health care services and, finally, the expense of private sector care. From the review of South African Hospitals it was seen that GSH primarily offers health care to the less privileged sector of the population, is an academic, specialist and provincial hospital and provides an acute, inpatient and secondary, short-term service. Limited primary, tertiary and outpatient care is also provided.

The use of hospitals by the elderly was then examined. It was found that the elderly may avoid seeking medical help because of transport difficulties, failure to recognise common symptoms and complaints, inaccurate perceptions of health status, and vulnerability to adverse effects of drugs. Recovery and rehabilitation problems were also identified which may result from the hazards of ageing, the type of nursing care offered, lack of adequate hospital facilities, and poor motivation for recovery. Discharge difficulties were identified which may result from unfavourable personal capacities and lack of environmental resources. Readmission was often due to premature discharge, a decline in mental function, stress, the type of community service used, and terminal illness.

Information taken mostly from the hospital folders, show that:

- 99% of the sample had a major relevant medical problem;
- 78% of the sample had secondary relevant medical problems;
- the four most common recorded medical problems were cardiovascular, pulmonary, gastro-intestinal and diabetes;

- a high Physical Self Maintenance Scale total score was related to having a major medical problem;
- a high Instrumental Activities of Daily Living Scale Total score and an inability to prepare food were related to having a major medical problem;
- dependency as regards shopping and laundry was related to having a secondary medical problem
- 10% of the sample had a diagnosed major psychiatric problem;
- 1% of the sample had a secondary psychiatric problem;
- 69% of respondents travelled to GSH by ambulance;
- 31% of respondents were transferred to other wards after admission to the EU;
- 59% of respondents had follow-up appointments at GSH after discharge;
- 30% of those respondents with a follow-up appointment would have had to use public transport if they did not qualify for hospital transport;
- over 10% of respondents with a follow-up appointment used other medical facilities;
- 47% of respondents had one or more previous overnight admissions during the year prceeding the present admission to the EU.
- 46% of respondents required new or replacement spectacles.

The following factors were found to be significantly related to a previous overnight admission to GSH:

- population grouping: coloureds/Asians were more likely to have been readmitted than whites;
- bathing ability: respondents who required assistance/ supervision when bathing were more likely to have been readmitted than those unable to take a full wash without assistance, were totally dependent, or were independent.
- shopping ability: respondents dependent on others for all or part of their needs were more likely to have been readmitted than those who were independent;
- cooking ability: dependent respondents and those only able to heat a prepared meal were more likely to have been readmitted than those who were either independent or able to prepare meals if supplied with ingredients;

- laundry ability: dependent or partly dependent respondents were more likely to have been readmitted than those who were totally independent;
- ability to undertake household tasks: dependent or partly dependent respondents were more likely to have been readmitted than those who were totally independent;
- participation in an outdoor activity/exercise: respondents who did not participate in an outdoor activity/exercise were more likely to have been readmitted than those who participated;
- answering "worse" to the question "Would you say that your health is the same, better or worse than most people of your age?";
- referral to a GSH social worker: respondents who had seen a GSH social worker were more likely to have been readmitted than those who had not;
- having a relevant secondary renal problem;
- having a relevant secondary "other" medical problem
- having a follow-up appointment at a medical outpatient department;
- use of spectacles: those respondents who had, or needed spectacles, as well as those who needed them replaced, were more likely to have been readmitted than those with no use for them.
- impaired eyesight: those respondents with impaired eyesight were more likely to have been readmitted than those who rated their eyesight as normal.

The discussion pointed to similarities between the evidence presented in the review sections and those findings showing medical problems. It was suggested that these findings highlight the dynamic interplay of external and internal resources on health and illness, as well as the relationship between functional impairment and medical problems. It was noted that there is a need for better linkage among the GSH Geriatric Unit consultants and primary care physicians and that education in geriatrics and psychogeriatrics among physicians and medical students should be increased. It was also noted that in the hospital setting comprehensive assessment of patients should be undertaken before discharge. It is an integral component of the discharge plan and should be co-ordinated by GSH social workers, who could, and should, be more committed. Finally, it was proposed that small units, community based and run, should

be developed by the formal sector. Such units could offer medical, nursing and ancillary services.

12.2. CONCLUSIONS

On the basis of the findings presented and discussed in this study it is possible to conclude that:

- there is a relationship between the ageing process and disease.
- in elderly patients physiological, social, cultural and psychological factors interrelate; so when dealing with elderly patients there is a need for a strong social work weighting.
- there is a strong possibility that utilisation of Groote Schuur Hospital by the elderly is not always appropriate.
- the instruments used for the assessment of elderly patients, and in particular the assessment of their morale and cognitive state, may not be reliable under local conditions.
- although there is a need for this type of research it must be ongoing in order to ensure that the changing needs and preferences of the population are taken into account.

12.3. RECOMMENDATIONS

This is the first study of its kind undertaken at Groote Schuur Hospital, the primary aim of which was to provide a holistic profile of their elderly population. It was foreseen that by providing a data base further research in this field might be indicated. It was also hoped that the findings might in some way help to provide a rational basis for more efficient health care for the aged. As the recommendations presented below indicate the primary objective has been achieved.

(i) Ongoing research should be undertaken to establish the reliability and validity of tests used for assessment of elderly patients. In the meantime instruction manuals should be issued with the tests, which should only be used by trained

persons, who should, ideally, be attached to a geriatric assessment programme. The findings of this study would suggest that tests used for assessment of elderly persons may not be valid or reliable under local conditions. Misplacement in an institution is often a result. This wastes scarce resources and, as institutional environments can be hazardous to the aged and places old people at risk. Inaccurate assessment may also create further disability by leading to premature labelling of patients as irremedially ill.

(ii) Both the elderly and their caregivers should be encouraged to ensure that the elderly undertake more physical activity and take more responsibility for their own lives by actively participating in the running of the household. The findings suggest that the elderly are relieved of many of their normal duties, even those around the home. The findings also suggest that physical exercise does not feature much in the lives of the elderly. People who are active, mentally and physically, are more likely to remain healthy, retain a positive sense of self worth and forestall the process of ageing.

(iii) Those involved with the health care of the aged should encourage families to make financial provision for their retirement years by attending retirement planning courses. The findings would suggest that people do not make financial provision for their retirement years. It is unlikely that the taxpayer will be able to provide for the needs of an increasing aged population.

(iv) There should be a better linkage among the GSH Geriatric Unit consultants and primary care physicians. Education in geriatrics and psychogeriatrics among physicians and medical students should also be increased. The evidence points to underdiagnosis of neurological, musculo-skeletal and psychiatric problems.

(v) Groote Schuur Hospital social workers, who would appear to have both the time and the skills, should become more committed to the discharge planning process. In addition the discharge plan should include an assessment of the functional abilities of elderly patients. The findings show that comprehensive assessment of the functional abilities of elderly patients is not always undertaken. The findings point to the very real possibility that this may lead to inappropriate use of GSH.

(vi) Small, community based and run, day care centres which offer medical, nursing and ancillary services for the care of the frail and elderly should be developed. Such centres would have many advantages. The need for more expensive "acute" care facilities, such as Groote Schuur Hospital provides, is likely to be reduced. Because the centres would be conveniently located the elderly might be more inclined to seek early help. Treatment and therapy could also be managed in a more cost effective setting. Patients could remain with their families thereby maintaining family traditions and bonds. Caregivers would be able to obtain some relief from the burden of care. Finally, the centres would be more able to deal with the individual needs of the aged and stimulate and utilise natural aid networks such as the family, friends, neighbours and volunteers.

(vii) Finally, this type of research should be undertaken on an ongoing basis. This would ensure that the services provided continue to take into account the dynamic interplay between a particular population of aged and the social context in which they live.

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APPENDIX 1

APPENDIX 1: Interview Schedule

Name of Patient . . . . . .
Hospital Folder No. . . . . .

Address . . . . . .
. . . . . .

Telephone . . . . . .

Card 1

Research no. ____ ____ ____ 01-03

After admission to Emergency Unit patient was sent
1 - Home
2 - Ward (specify . . . . .)
3 - Other (specify . . . . .) ____ 04

Was patient interviewed? (specify Yes or No) ____ 05

If YES was interview held
1 - In patient's residence
2 - Other (specify . . . . .) ____ 06
* OR: ? R or P

IF NO was it because patient
1 - Passed away
2 - Moved away and/or untraceable
3 - Communication problem
4 - Depressed level of consciousness
5 - Too confused
* OR: ? R or P ____ 07

Ethnic Group
1 - White
2 - Coloured
3 - Black
4 - Indian ____ 08

Sex
1 - Male
2 - Female ____ 09

Appendix 1 - 2

Card 1

Age

1 - 65-69
2 - 70-74
3 - 75-79
4 - 80-84
5 - 85+ ____ 10

Marital Status

1 - Married (traditional or legal)
2 - Common-law spouse
3 - Widowed
4 - Divorced
5 - Separated
6 - Single ____ 11

Place of Birth

1 - South Africa
2 - Homelands
3 - British Isles
4 - Europe
5 - Other (specify . . . . .) ____ 12

Length of stay in Cape Province

1 - For health reasons
2 - On holiday
3 - Less than 1 year
4 - 1-5 years
5 - 6-10 years
6 - Over 10 years ____ 13

Card 1

MEDICAL AND PSYCHIATRIC DETAILS

Is there a major presenting medical problem?
(Specify Yes or No) ____ 14
If YES, specify no. or ? R or P

0 - Other (specify . . . . .)
1 - Cardiovascular
2 - Cerebrovascular
3 - Pulmonary
4 - Neurological
5 - Musculo-skeletal
6 - Gastro-intestinal
7 - Renal
8 - Endocrine
9 - Diabetes ____ 15

Are there other secondary, relevant medical problems?
(Specify Yes or No) ____ 16
If YES, specify in each Yes/No/?/R or P

1 - Cardiovascular ____ 17

2 - Cerebrovascular ____ 18

3 - Pulmonary ____ 19

4 - Neurological ____ 20

5 - Musculo-skeletal ____ 21

6 - Gastro-intestinal ____ 22

7 - Renal ____ 23

8 - Endocrine ____ 24

9 - Diabetes ____ 25

10 - Dermatological ____ 26

11 - Unspecified Malignancy ____ 27

12 - Other (specify . . . . .) ____ 28

Card 1

Is there a major presenting psychiatric problem?
(Specify Yes or No) ____ 29
If YES, specify no. or ? R or P

1 - Confusion/delirium
2 - Alcohol/Drug Abuse
3 - Dementia
4 - Depression
5 - Anxiety
6 - Other (specify . . . . .) ____ 30

Are there secondary relevant psychiatric problems?
(Specify Yes or No) ____ 31
If YES, in each case Yes/No/?/R or P

1 - One of 1-6 above
(specify no . . . . .) ____ 32

2 - Other (specify . . . . .) ____ 33

Hospital Admissions over past year
1 - One
2 - Two
3 - Three
4 - Four or more
* Or ? R or P ____ 34

Method of transport used to get to hospital?
1 - Ambulance
2 - Private Car
3 - Taxi
4 - Train
5 - Bus
6 - Other (specify . . . . .) ____ 35

PHYSICAL SELF-MAINTENANCE

TOILETTING

* Can care for self at toilet completely	- 1		
* Can use toilet but needs assistance/supervision	- 2		
* Cannot use toilet but has control over bowels or bladder	- 3		
* Cannot use toilet, no control of bowels or bladder	- 4	____	36

FEEDING

* Normal diet, eats without assistance	- 1		
* Normal diet but needs supervision/assistance when eating	- 2		
* Special diet and requires assistance with feeding	- 3		
* Requires special diet and must be fed	- 4	____	37

DRESSING

* Dresses, undresses and selects clothes	- 1		
* Needs supervision with clothes selection, dressing and undressing	- 2		
* Needs assistance with dressing	- 3		
* Completely unable to dress or undress self	- 4	____	38

GROOMING (neatness, hair, nails, hands, face)

* Grooms self adequately without assistance	- 1		
* Grooms self adequately, but needs to be supervised	- 2		
* Needs assistance with grooming	- 3		
* Unable to groom self	- 4	____	39

PHYSICAL AMBULATION

* Goes about grounds or city	- 1		
* Ambulates slowly or with assistance of either another person, railing, cane, walker or wheelchair	- 2		
* Sits unsupported in chair or wheelchair, but cannot propel self without help	- 3		
* Bedridden more than half the time	- 4	____	40

Card 1

BATHING (tub, shower, sponge bath)

* Bathes self without help	- 1		
* Bathes self, with supervision/assistance	- 2		
* Unable to undertake a full wash i.e. can only wash face and hands	- 3		
* Cannot bath or wash self	- 4	____	41
Total score (06 - 24) OR ? R or P		____ ____	42-43

INSTRUMENTAL ACTIVITIES OF DAILY LIVING

ABILITY TO USE TELEPHONE

*	Still able to operate telephone on own initiative; still able to look up and dial numbers etc	- 1	
*	Only able to dial a few well known numbers	- 2	
*	Able to answer telephone but not able to dial	- 3	
*	Unable to use telephone at all	- 4	
*	OR: ? R or P	____	44

Is there a telephone in the Home?
(Yes/No/?/R or P) ____ 45

If NO, is there one nearby which can be used at any time?
(Yes/No/?/R or P/) ____ 46

SHOPPING

*	Able to do all/almost all shopping by self	- 1
*	Only able to do light shopping by self	- 2
*	Needs to be accompanied when shopping	- 3
*	Completely unable to shop	- 4
*	OR: ? R or P	____ 47

Does patient need to shop for
household items? (Yes/No/?/R or P) ____ 48

FOOD PREPARATION

*	Able to plan and prepare meals by self	- 1
*	Able to prepare meals if supplied with ingredients	- 2
*	Only able to heat a prepared meal	- 3
*	Meals must be prepared and served	- 4
*	OR: ? R or P	____ 49

Does patient need to prepare meals
(Yes/No/?/R or P) ____ 50

Card 1

HOUSEWORK

* Able to maintain house alone or with occasional assistance (e.g. scrubbing floors, cleaning windows etc)	- 1	
* Able to perform light tasks (e.g. bed-making and dishwashing)	- 2	
* Only able to perform light tasks under supervision	- 3	
* Unable to participate in any housekeeping tasks	- 4	
* OR: ? R or P	____	51
Does patient need to do housework? (Yes/No/?/R or P)	____	52

LAUNDRY

* Able to attend to all laundry	- 1	
* Able to launder small items, eg. underwear	- 2	
* Only able to launder small items if supervised	- 3	
* All laundry must be done by others	- 4	
* OR: ? R or P	____	53
Does patient need to do laundry? (Yes/No/?/R or P)	____	54

TRANSPORTATION

* Able to travel independently on public transport/drive own car	- 1	
* Able to travel by bus/train when accompanied/assisted by another	- 2	
* Can only travel by taxi or car	- 3	
* Can only travel by ambulance	- 4	
* OR: ? R or P	____	55
Does patient need to use public transport/drive own car? (Yes/No/?/R or P)	____	56

RESPONSIBILITY FOR OWN MEDICATION

* Able to take responsibility and take correct dosages at correct time	- 1	
* Needs to be reminded	- 2	
* Medication must be handed to patient	- 3	
* Unable to take responsibility	- 4	
* OR: ? R or P	____	57
Does patient have to take responsibility for own medication? (Yes/No/?/R or P)	____	58

ABILITY TO HANDLE FINANCES

* Able to manage financial matters independently (budget, pay rent/ bills, collect money)	- 1		
* Able to manage day-to-day purchases, but needs help with banking, major purchases etc	- 2		
* Only able to handle day-to-day purchases under supervision	- 3		
* Incapable of handling money	- 4		
* OR: ? R or P		____	59
Does patient need to manage finances? (Yes/No/?/R or P)		____	60
Total score (08 - 32) OR ? R or P		____ ____	61-62

Card 2

LEISURE ACTIVITIES

Education

Highest standard reached

1 - No schooling
2 - Attended Primary school
3 - Completed Primary school/Std. 5
4 - Attended High School
5 - Completed High School/Std. 10
6 - Higher Diploma (specify . . . . .)
7 - Degree (specify . . . . .)
OR: ? R or P ____ 01

Do you have a job now? (Yes/No/?/R or P) ____ 02
If YES, specify type OR ? R or P

1 - Unskilled (e.g. labourer, domestic)
2 - Semi-skilled (e.g. machinist, clerk)
3 - Skilled (e.g. bricklayer, typist)
4 - Professional/Managerial ____ 03

and 1 - Regular
2 - Casual ____ 04

and 1 - full-time
2 - part-time ____ 05

What was your main occupation during your working life
Specify in each case Yes/No/?/R or P

a) Unskilled ____ 06

b) Semi-skilled ____ 07

c) Skilled ____ 08

d) Professional/Managerial ____ 09

e) Housewife ____ 10

f) Grantee ____ 11

g) Other (specify . . . . .) ____ 12

Outings

Do you ever leave the home? (e.g. shopping, visiting, walking (Yes/No/?/R or P) ____ 13
If YES specify how often OR: ? R or P

* most days - 4
* several times a week - 3
* once or twice a month - 2
* seldom - 1____ 14

Visitors

Do you ever have visitors? (Yes/No/?/R or P) ____ 15
If YES specify how often OR: ? R or P

* most days - 4
* several times a week - 3
* once or twice a month - 2
* seldom - 1____ 16

Church

Do you belong to a church? (name . . . . .)
(Yes/No/?/R or P) ____ 17
If YES specify participation OR: ? R or P

* every week if possible - 4
* several times a month - 3
* seldom - 2
* never goes to church - 1____ 18

Outdoor Activities/Exercise

Do you participate in any outdoor activity/exercise
e.g. gardening, walking, bowls (Activity . . . . .)
(Yes/No/?/R or P) ____ 19
If YES specify frequency OR: ? R or P

* most days - 4
* several times a week - 3
* seldom - 2
* occasionally - 1____ 20

Card 2

Social clubs/groups

Do you belong to a club/group? (club . . . . .)
(Yes/No/?/R or P) ____ 21
If YES specify attendance OR: ? R or P

* at least once a week - 4
* fortnightly - 3
* at least once a month - 2
* seldom - 1____ 22

Hobbies

Do you have any hobbies (crafts, knitting) (hobby . . . . .)
(Yes/No/?/R or P) ____ 23
If YES specify frequency OR: ? R or P

* most days - 4
* several times a week - 3
* once a fortnight - 2
* seldom - 1____ 24

Books/Newspapers

Do you read books/newspapers? (Yes/No/?/R or P) ____ 25
If YES specify regularity OR: ? R or P

* daily - 4
* approx. once a week - 3
* maybe once a fortnight - 2
* seldom - 1____ 26

Radio/TV

Do you listen to the radio/watch t.v.
(Yes/No/?/R or P) ____ 27
IF YES specify frequency OR: ? R or P

* daily - 4
* weekly - 3
* fortnightly - 2
* seldom - 1____ 28

Card 2

Cards/Games

Do you play cards or other games? (game . . . . .) (Yes/No/?/R or P) IF YES Specify how often OR: ? R or P	____	29
* daily	- 4	
* weekly	- 3	
* fortnightly	- 2	
* seldom	- 1____	30
Total Score (00 - 36) OR: ? R or P	____ ____	31-32

Card 2

MORALE

Do you feel that things keep getting worse as you get older?
Rating:

* Yes = 0
* No = 1
* OR: ? R or P

____ 33

Do you think you have as much pep as you had last year
Rating

* No = 0
* Yes = 1
* OR: ? R or P

____ 34

How much(often) do you feel lonely?
Rating

* (a lot) often = 0
* (not much) seldom = 1
* OR: ? R or P

____ 35

Do you find that little things bother you more this year?
Rating

* Yes = 0
* No = 1
* OR: ? R or P

____ 36

Would you say that you see enough of your friends and relatives?
Rating

* No = 0
* Yes = 1
* OR: ? R or P

____ 37

Would you say that as you get older you are less useful?
Rating

* Yes = 0
* No = 1
* OR: ? R or P

____ 38

If you could live where you wanted, where would you live?
Rating

* Anywhere but "home" = 0
* Current "home" = 1
* OR: ? R or P

____ 39

Card 2

Do you find that sometimes you worry so much you can't sleep?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

_____ 40

Do you think that as you get older, things are better, worse or the same as you thought they would be?

Rating

* Same/worse = 0
* Better = 1
* OR: ? R or P

_____ 41

Do you sometimes feel that life isn't worth living?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

_____ 42

Do you feel you are as happy now as you were when you were younger?

Rating

* No = 0
* Yes = 1
* OR: ? R or P

_____ 43

Do you feel you have a lot to be sad about?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

_____ 44

Would you say that people had it better in the old days?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

_____ 45

Are you afraid of a lot of things?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

_____ 46

Card 2

Do you get mad more than you used to?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

____ 47

Do you think that life is hard for you most of the time?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

____ 48

How satisfied are you with your life today?

Rating

* Not satisfied = 0
* Satisfied = 1
* OR: ? R or P

____ 49

Do you find you take things hard?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

____ 50

Do you think that a person has to live for today and not worry about tomorrow?

Rating

* No = 0
* Yes = 1
* OR: ? R or P

____ 51

Would you say that your health is the same better or worse than most people of your age?

Rating

* Worse = 0
* Better/same = 1
* OR: ? R or P

____ 52

Do you find you get upset easily?

Rating

* Yes = 0
* No = 1
* OR: ? R or P

____ 53

Total score (00-21) OR: ? R or P ____ ____ 54-55

Card 2

MINI-MENTAL STATE EXAMINATION

		Points			
ORIENTATION					
1.	What is the				
	Year	1			
	Season	1			
	Date	1			
	Day	1			
	Month	1		____	56
2.	Where are we				
	State/Country	1			
	Province	1			
	Town/City	1			
	Hospital/Suburb	1			
	Floor/Street	1		____	57
REGISTRATION					
36.	Name 3 objects, taking one second to say each. Then ask patient all 3 after having said them. Give 1 point for each correct answer.		3	____	58
	Repeat answers until patient learns all three.				
ATTENTION AND CALCULATION					
4.	Serial sevens. Give one point for each correct answer. Stop after 5 answers. ALTERNATE: Spell WORLD, or HERFS backwards				
	But If patient has never learned mathematics or cannot spell and FOR THIS REASON ONLY score n		(n) 5	____	59
RECALL					
5.	Ask for names of 3 objects learned in Question 3.Give one point for each correct answer		3	____	60
LANGUAGE					
6.	Point to a pencil and watch. Have the patient name them as you point.		2	____	61
7.	Have the patient repeat "No ifs, ands or buts or "Nog vis, nog vlees, nog voel)				
	But If patient cannot speak and FOR THIS REASON ONLY score n		(n) 1	____	62

Card 2

8. Have the patient follow a 3-stage command: "Take a paper in your right hand, fold it in half and put on the floor — 3 — ____ 63

9. Have patient read and obey the following:

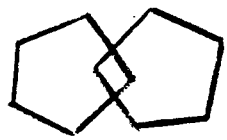
   CLOSE YOUR EYES

   But If patient cannot read, and FOR THIS REASON ONLY score n — (n) 1 — ____ 64

10. Have the patient write a sentence of his/her choice. (t he sentence should contain a subject, an object and make sense. Ignore spelling errors when scoring

    But If patient cannot write, and FOR THIS REASON ONLY score n — (n) 1 — ____ 65

11. Have the patient copy the design below. Give 1 point if all sides and angles are preserved and if intersecting sides form a diamond shape



(n) 1 — ____ 66

But If patient cannot use hands to draw, and FOR THIS REASON ONLY score n

ADDITIONAL ITEMS

The following are substitution for questions 4, 7, 9 and 11. ALL respondents must answer these in addition to above including 4, 7, 9, and 11.

12. Ask patient to count backwards from 10 - 1 — 1 — ____ 67

13. Have patient say a sentence using the word COW. The sentence must have a subject, an object and make some sense — 1 — ____ 68

14. Say to patient "do as I am doing". Close your eyes. Score if subject closes eyes. — 1 — ____ 69

15. Total score (00-33) OR: ? R or P — ____ ____ 70-71

Card 2

OBSERVATIONS

Does the patient's hearing seem to be
1 - Normal (with or without aid)
2 - Partially Deaf
3 - Deaf
* OR: ? R or P ____ 72

Does the patient's eyesight seem to be
1 - Normal (with or without glasses)
2 - Partially sighted
3 - Blind
* OR: ? R or P ____ 73

Does the weight of the patient appear to be
1 - Normal
2 - Overweight
3 - Underweight
* OR: ? R or P ____ 74

Was patient co-operative when answering
(Specify Yes/No/?/R or P) ____ 75

Were the answers lucid?
(specify Yes/No/?/R or P) ____ 76

Card 3

HOUSING AND ENVIRONMENT

Type of dwelling patient lives in
Specify no. or ? R or P

1 - Patient's/Family's own house
2 - Rented house
3 - Patient's/Family's own flat
4 - Rented flat
5 - Room only
6 - Shack
7 - Housing Unit for the Aged
8 - Old Age Home
9 - Other (specify . . . . .) ____ 01

Does your home have:
Specify in each Yes/No/?/R or P

a) Electricity ____ 02
b) Inside Toilet ____ 03
c) Outside Toilet (score P if Yes to above) ____ 04
d) Inside Tap ____ 05
e) Refrigerator (gas or electric) ____ 06
f) Stove (gas or electric) ____ 07
g) Outside stairs and no lift ____ 08
h) Inside stairs and no lift ____ 09

Do you live with anyone?
(Specify Yes/No/?/R or P) ____ 10

If YES specify who with by Yes/No/?/R or P

a) Spouse ____ 11
b) Children/Grandchildren ____ 12
c) Relatives ____ 13
d) Friends ____ 14
e) Boarding with others ____ 15
f) Housing Unit for Aged ____ 16
g) Old Age Home ____ 17
h) Other ____ 18

Card 3

Overcrowding

How many rooms in the home? (exclude bathroom/kitchen)
(Specify no. or ? R or P) ____ ____ 19-20

How many adults (aged 18+) sleep in the home?
(Specify no. or ? R or P) ____ ____ 21-22

How many children (aged <18) sleep in the home?
(Specify no. or ? R or P) ____ ____ 23-24

Of the children how many are younger than 10 years?
(Specify no. or ? R or P) ____ ____ 25-26

Of the children how many are younger than 5 years?
(Specify No. ? R or P) ____ ____ 27-28

Do you share a bedroom? (Yes/No/?/R or P) ____ 29

If YES specify with whom by Yes/No/?/R or P ____ 30

a) Spouse

b) Child of 18+ years ____ 31

c) Child of <18 years ____ 32

d) Grandchild of 18+ years ____ 33

e) Grandchild of <18 years ____ 34

f) Other (specify . . . . .) ____ 35

Do you share a bed? (Yes/No/?/R or P) ____ 36
If YES specify with whom by Yes /No/?/R or P

a) Spouse ____ 37

b) Child of 18+ years ____ 38

c) Child of <18 years ____ 39

d) Grandchild of 18+ years ____ 40

e) Grandchild of <18 years ____ 41

f) Other ____ 42

Card 3

Do you feel safe where you live?
(Yes/No/?/R or P) ____ 43
If NO specify why .....

Have you ever been attacked/robbed?
(Yes/No/?/R or P) ____ 44

If YES has this happened in the past 3 years? ..... (Yes/No/?/R or P) 45

How long does it take to get to the nearest cafe?

* Under 5 minutes - 1
* Up to 15 minutes - 2
* Not more than 30 minutes - 3
* Longer than 30 minutes - 4
* Or: ? R or P ____ 46

How long does it take to get to the nearest bus/train?

* Under 5 minutes - 1
* Up to 15 minutes - 2
* Not more than 30 minutes - 3
* Longer than 30 minutes - 4
* Or: ? R or P ____ 47

How long does it take to get to the nearest clinic/hospital/doctor

* Under 5 minutes - 1
* Up to 15 minutes - 2
* Not more than 30 minutes - 3
* Longer than 30 minutes - 4
* Or: ? R or P ____ 48

Do you have responsibilities in the house? (Yes/No/?/R or P) ____ 49
If YES specify Yes/No/?/R or P

a) Housework ____ 50

b) Cooking ____ 51

c) Child Minder ____ 52

d) Supervising care of another family member ____ 53

e) Caring for another family member ____ 54

f) Other (specify .....) ____ 55

Card 3

Is there anyone in the home with a handicap?
(Yes/No/?/R or P) (NB exclude patient) ____ 56
(specify who eg patient, son .....)

If YES specify nature by YES/No?/R or P

a) Physical ____ 57

b) Psychiatric ____ 58

Is there anyone in the home who attends a hospital/clinic/doctor regularly? (Yes/No/?/R or P) ____ 59
(specify who .....)

Is there anyone in the home who needs to take prescription drugs regularly? (Yes/No/?/R or P) ____ 60
(specify who .....)

Is there anyone in the home who regularly uses non prescription drugs?
(Yes/No/?/R or P) ____ 61
(specify who .....)

Is there anyone in the home who uses alcohol?
(Yes/No/?/R or P) ____ 62
(specify who e.g. patient, ...)

If YES does this cause problems?
(Yes/No/?/R or P) ____ 63

Specify type of problem or ? R or P
1 - Financial
2 - Emotional ____ 64

Does anyone in the home use dagga/mandrax/ other similar agent
(Yes/No/?/R or P) ____ 65
(specify who .....)
If YES, specify rate or ? R or P

1 - Occasional
2 - Regular ____ 66

What type of transport does the family most often use?

1 - Private car
2 - Public transport
* OR: ? R or P ____ 67

Card 4

FINANCIAL POSITION

What is your monthly income?

1 - 0-R 99
2 - R100-R199
3 - R200-R299
4 - R300-R449
5 - R450-R899
6 - R900+
* OR: ? R or P ____ 01

Do you get this income from? (Specify in each Yes/No/?/R or P)

a) State Pension ____ 02

b) Civil Pension ____ 03

c) Private Pension ____ 04

d) Income from investments ____ 05

e) Other (specify . . . . .) ____ 06

Does anyone else have an income in the home? (Yes/No/?/R or P) ____ 07

If YES specify in each Yes/No or ? R or P

a) Spouse ____ 08

b) Children ____ 09

c) Relatives ____ 10

d) Boarders ____ 11

e) Institution ____ 12

Does anybody help by giving you money or goods (Yes/No/?/R or P) ____ 13
If YES specify in each Yes/No/?/R or P

a) Children ____ 14

b) Relatives ____ 15

c) Friends ____ 16

d) Other (church, welfare) ____ 17

Do you belong to a Medical Aid?
(Yes/No/?/R or P) ____ 18

SUPPORT SYSTEMS

How many children have you had? (Specify no. ? R or P) _____ _____19-20

How many are still alive? (Specify no. ? R or P) _____ _____21-22

How many live in the Cape Town area? (Specify no. ? R or P) _____ _____23-24

How many brothers and sisters were there in your family or
How many children did your mother have?
NB deduct for patient when scoring. (Specify no. ? R or P) _____ _____25-26
(Specify no. ? R or P)

How many are still alive? (Specify no. ? R or P) _____ _____27-28

How many are living in the Cape Town area?
(Specify no. ? R or P) _____ _____29-30

Do you have any contact with your children? _____ 31
(Specify Yes/No/?/R or P)

If YES how often does such contact occur?
(code which occurs most often or ? R or P)

	Daily	Weekly	Monthly	< Monthly		
Face to face	1	2	3	4	_____	32
Letters	1	2	3	4	_____	33
Telephone	1	2	3	4	_____	34

Do you have any contact with your brothers and sisters? _____ 35
(Yes/No/?/R or P)

If YES how often does such contact occur?
(code which occurs most often or ? R or P)

	Daily	Weekly	Monthly	<Monthly		
Face to face	1	2	3	4	_____	36
Letters	1	2	3	4	_____	37
Telephone	1	2	3	4	_____	38

Card 4

Do you have any contact with your friends and other relatives?
(Yes/No/?/R or P) ____ 39

	Daily	Weekly	Monthly	<Monthly		
Face to face	1	2	3	4	____	40
Letters	1	2	3	4	____	41
Telephone	1	2	3	4	____	42

In an emergency who are you most likely to contact?

1 - Spouse
2 - Child/Grandchild
3 - Sibling
4 - Relative/Friends
5 - Neighbour
6 - Other (specify . . . . .)
7 - Staff member
8 - No-one
* OR: ? R or P ____ 43

Who mostly looks after you when you are sick?

1 - Spouse
2 - Child/Grandchild
3 - Sibling
4 - Relative/Friends
5 - Neighbour
6 - Other (specify . . . . .)
7 - Staff member
8 - No-one
* OR: ? R or P ____ 44

When you are sick, who usually buys your personal needs?
(eg. sweets, cigarettes, clothes, groceries)

1 - Spouse
2 - Child/Grandchild
3 - Sibling
4 - Relative/Friends
5 - Neighbour
6 - Other (specify . . . . .)
7 - Staff member
8 - No-one
* OR: ? R or P ____ 45

Card 4

Is there an adult (over 18) in the home?
(specify . . . . .)
1 - All the time
2 - All day
3 - Mornings only
4 - Afternoons only
5 - Night-time only
6 - No-one
* OR: ? R or P ____ 46

Card 5

SERVICES

On discharge is patient being followed up at one of the following Departments at GSH? (Specify in each case Yes/No/?/R or P)

Outpatients	____	01
Psychiatry	____	02
Occupational Therapy	____	03
Speech Therapy	____	04
Social Work	____	05
Physiotherapy	____	06
Other (specify . . . . .)	____	07

Does patient use or require one of the following items: (code most appropriate or ? R or P)

	No use	Has one	Needs replacing	Requires one		
Spectacles	1	2	3	4	____	08
Hearing Aid	1	2	3	4	____	09
Walking stick	1	2	3	4	____	10
Walking Frame	1	2	3	4	____	11
Wheelchair	1	2	3	4	____	12
Artificial limb	1	2	3	4	____	13
False Teeth	1	2	3	4	____	14
Other (specify . . . . .)	1	2	3	4	____	15

Card 5

Does patient use/ or would like to use one of the folowing community services?
(code most appropriate or ? R or P)

	No use	uses	would use	would use but not abailable		
Day hospital/clinic	1	2	3	4	____	16
House Doctor	1	2	3	4	____	17
District Sister	1	2	3	4	____	18
Dentist	1	2	3	4	____	19
Social Worker	1	2	3	4	____	20
Physiotherapist	1	2	3	4	____	21
Occupational Therapist	1	2	3	4	____	22
Chiropodist	1	2	3	4	____	23
Home help	1	2	3	4	____	24
Meals-on-wheels	1	2	3	4	____	25
Nursing Services	1	2	3	4	____	26
Friendly Visitor	1	2	3	4	____	27
Service centre	1	2	3	4	____	28
Social club	1	2	3	4	____	29
Old Age Home	1	2	3	4	____	30
Holiday Relief	1	2	3	4	____	31
Other (specify . . . . .)		1	2	34	____	32

Card 5

SOCIAL WORK SERVICES

Have you seen/been referred to a Social Worker?
(Yes/No/?/R or P) _____ 33

Do you know what a Social Worker does?
(Yes/No/?/R or P) _____ 34

Have you ever seen a Social Worker?
(Yes/No/?/R or P) _____ 35

If YES specify where:

1 - Hospital (specify . . . . .)
2 - Community (specify . . . . .)
* OR: ? R or P _____ 36

and

Were you satisfied with the service
you received? (Yes/No/?/R or P) _____ 37

APPENDIX 2

APPENDIX 2: Interview Schedule for Use With Families of Deceased Patients

Name of Patient: .....

Hospital Folder No. .....

Address .....

.....

Telephone .....

Card 1

Research no. _____ ____ ____ ____ 01-03

After admission to Emergency Unit patient was sent
1 - Home
2 - Ward (specify .....)
3 - Other (specify .....) ____ 04

Ethnic Group
1 - White
2 - Coloured
3 - Black
4 - Asian ____ 08

Sex
1 - Male
2 - Female ____ 09

Age
1 - 65-69
2 - 70-74
3 - 75-79
4 - 80-84
5 - 85+ ____ 10

Marital Status
1 - Married (traditional or legal)
2 - Common-law spouse
3 - Widowed
4 - Divorced
5 - Separated
6 - Single ____ 11

Appendix 2 - 2

Card 1

Place of Birth

1 - South Africa
2 - Homelands
3 - British Isles
4 - Europe
5 - Other (specify . . . . .) _____ 12

Length of stay in Cape Province

1 - For health reasons
2 - On holiday
3 - Less than 1 year
4 - 1-5 years
5 - 6-10 years
6 - Over 10 years _____ 13

Card 1

MEDICAL AND PSYCHIATRIC DETAILS

Is there a major presenting medical problem? (Specify Yes or No) _____ 14
If YES, specify no. or ? R or P

0 - Other (specify . . . . .)
1 - Cardiovascular
2 - Cerebrovascular
3 - Pulmonary
4 - Neurological
5 - Musculo-skeletal
6 - Gastro-intestinal
7 - Renal
8 - Endocrine
9 - Diabetes _____ 15

Are there other secondary, relevant medical problems? (Specify Yes or No) 16
If YES, specify in each Yes/No/?/R or P

1 - Cardiovascular _____ 17

2 - Cerebrovascular _____ 18

3 - Pulmonary _____ 19

4 - Neurological _____ 20

5 - Musculo-skeletal _____ 21

6 - Gastro-intestinal _____ 22

7 - Renal _____ 23

8 - Endocrine _____ 24

9 - Diabetes _____ 25

10 - Dermatological _____ 26

11 - Unspecified Malignancy _____ 27

12 - Other (specify . . . . .) _____ 28

Card 1

Is there a major presenting psychiatric problem? (Specify Yes or No) _____ 29
If YES, specify no. or ? R or P

1 - Confusion/delirium
2 - Alcohol/Drug Abuse
3 - Dementia
4 - Depression
5 - Anxiety
6 - Other (specify . . . . .) _____ 30

Are there secondary relevant psychiatric problems? (Specify Yes or No) _____ 31
If YES, in each case Yes/No/?/R or P

1 - One of 1-6 above (specify no) _____ 32
2 - Other (specify . . . . .) _____ 33

Hospital Admissions over past year

1 - One
2 - Two
3 - Three
4 - Four or more
* Or ? R or P _____ 34

Method of transport used to get to hospital?

1 - Ambulance
2 - Private Car
3 - Taxi
4 - Train
5 - Bus
6 - Other (specify . . . . .) _____ 35

HOUSING AND ENVIRONMENT

Type of dwelling patient lives in. Specify no. or ? R or P

1 - Patient's/Family's own house
2 - Rented house
3 - Patient's/Family's own flat
4 - Rented flat
5 - Room only
6 - Shack
7 - Housing Unit for the Aged
8 - Old Age Home
9 - Other (specify . . . . .) _____ 01

Does your home have: Specify in each Yes/No/?/R or P

a) Electricity _____ 02

b) Inside Toilet _____ 03

c) Outside Toilet (score P if Yes to above) _____ 04

d) Inside Tap _____ 05

e) Refrigerator (gas or electric) _____ 06

f) Stove (gas or electric) _____ 07

g) Outside stairs and no lift _____ 08

h) Inside stairs and no lift _____ 09

Card 3

Do you live with anyone? (Specify Yes/No/?/R or P)	____	10
If YES specify who with by Yes/No/?/R or P		
a) Spouse	____	11
b) Children/Grandchildren	____	12
c) Relatives	____	13
d) Friends	____	14
e) Boarding with others	____	15
f) Housing Unit for Aged	____	16
g) Old Age Home	____	17
h) Other	____	18

FINANCIAL POSITION

What is your monthly income?

1 - 0-R 99
2 - R100-R199
3 - R200-R299
4 - R300-R449
5 - R450-R899
6 - R900+
* OR: ? R or P _____ 01

Do you get this income from? (Specify in each Yes/No/?/R or P)

a) State Pension _____ 02

b) Civil Pension _____ 03

c) Private Pension _____ 04

d) Income from investments _____ 05

e) Other (specify . . . . .) _____ 06

Does anyone else have an income in the home? (Yes/No/?/R or P) _____ 07
If YES specify in each Yes/No or ? R or P

a) Spouse _____ 08

b) Children _____ 09

c) Relatives _____ 10

d) Boarders _____ 11

e) Institution _____ 12

Card 4

Does anybody help by giving you money or goods (Yes/No/?/R or P) If YES specify in each Yes/No/?/R or P	____	13
a) Children	____	14
b) Relatives	____	15
c) Friends	____	16
d) Other (church, welfare)	____	17
Do you belong to a Medical Aid? (Yes/No/?/R or P)	____	18

APPENDIX 3

APPENDIX 3 Intertest and Interrater Reliability of Items in the Questionnaire

I. FUNCTIONAL AIDS

Item	Type of Aid	Reliability	ASE1
1.	Spectacles	0.456	0.08
2.	Hearing Aid	0.825	0.09
3.	Walking Stick	0.820	0.07
4.	Walking Frame	-*	-
5.	Wheelchair	-*	-
6.	Artificial Limb	0.486	0.31
7.	False Teeth	-*	-
8.	Other	0.781	0.15

* Inadequate/incomplete data: no statistics computed: no statistics computed

II. FUNCTIONAL STATUS

(i) PHYSICAL SELF MAINTENANCE SCALE

Item	Activity	Reliability	ASE1
1.	Toiletting	0.811	0.10
2.	Feeding	-*	-
3.	Dressing	0.653	0.11
4.	Grooming	0.572	0.10
5.	Physical Ambulation	0.533	0.09
6.	Bathing	0.714	0.09
7.	Total Score	1.000	0.00

Appendix 3 - 2

(ii) INSTRUMENTAL ACTIVITIES OF DAILY LIVING SCALE

Item	Activity	Ability Scores (1-4)		Need (Yes/No)	
		Reliability	ASE1	Reliability	ASE1
1.	Telephone use	0.458	0.08	0.960	0.04
2.	Shopping	0.493	0.08	0.648	0.23
3.	Food Preparation	0.435	0.08	1.000	0.00
4.	Housework	0.542	0.08	-*	-
5.	Laundry	0.508	0.08	-0,018	0.01
6.	Transportation	0.447	0.08	0.648	0.10
7.	Medication	-*	-	0.771	0.09
8.	Financial Affairs	0.517	0.07	0.343	0.10
9.	Total Score (08-32)	1.000			0.00

(iii) USE OF FREE TIME

Pre-Retirement Occupation

Item	Type of Occupation	Reliability	ASE1
1.	Unskilled (e.g. labourer, domestic)	0.857	0.06
2.	Semi-skilled (e.g. machinist, clerk)	1.000	0.00
3.	Skilled (e.g. bricklayer, typist)	0.899	0.09
4.	Professional/Managerial	1.000	0.00
5.	Housewife	0.923	0.05
6.	Grantee	-*	-
7.	Other	-*	-

Scale for Leisure Activities

Item	Activity	Participation (Yes/No)		Frequency Score (4-1)	
		Reliability	ASE1	Reliability	ASE1
1.	Going out	0.572	0.12	0.150	0.08
2.	Visitors	-*	-	0.067	0.09
3.	Going to church	0.791	0.20	0.616	0.07
4.	Physical activity	0.501	0.19	-*	-
5.	Clubs/groups	0.617	0.15	0.615	0.31
6.	Hobbies	0.584	0.12	-*	-
7.	Reading	0.782	0.08	0.099	0.17
8.	Radio/t.v.	0.296	0.19	0.169	0.12
9.	Cards/games	0.814	0.12	-*	-
10.	Total score	1.000			0.00

* inadequate/incomplete data: no statistics computed

(iv) PGC MORALE SCALE

Item	Question	Reliability	ASE1
1.	Do you feel that things keep getting worse as you get older?	0.272	0.14
2.	Do you think you have as much pep as you had last year?	0.238	0.22
3.	How much (often) do you feel lonely?	0.490	0.15
4.	Do you find that little things bother you more this year?	0.419	0.14
5.	Would you say you see enough of your friends and relatives?	-*	-
6.	Would you say that as you get older you are less useful?	0.312	0.16
7.	If you could live where you wanted, where would you live?	0.118	0.14
8.	Do you find that sometimes you worry so much you can't sleep?	0.019	0.12
9.	Do you think that as you get older, things are better, worse or the same as you thought they would be?	-*	-
10.	Do you sometimes feel that life isn't worth living?	0.558	0.11
11.	Do you feel you are as happy now as you were when you were younger?	0.339	0.12
12.	Do you feel you have a lot to be sad about?	0.252	0.11

Item	Question	Reliability	ASE1
13.	Would you say that people had it better in the old days?	0.306	0.16
14.	Are you afraid of a lot of things?	0.348	0.17
15.	Do you get mad more than you used to?	0.288	0.14
16.	Do you think that life is hard for you most of the time?	0.257	0.10
17.	How satisfied are you with your life today?	0.195	0.18
18.	Do you find you take things hard?	0.248	0.14
19.	Do you think a person has to live for today and not worry about tomorrow?	0.096	0.13
20.	Would you say that your health is the same, better or worse than most people of your age	0.161	0.14
21.	Do you find you get upset easily?	0.261	0.14
22.	Total score (00-21)	1.000	0.00

* inadequate/incomplete data: no statistics computed

(v) MINI-MENTAL STATE EXAMINATION

Item	Question	Reliability	ASE1
	Orientation		
1.	Year, season, date, day, month	0.505	0.13
2.	State, province, town, suburb, street	0,542	0.16
	Registration		
3.	Name 3 objects	-*	-
	Attention and Calculation		
4.	Spell WORLD backwards	0.609	0.13
	Recall		
5.	Names of previously mentioned 3 objects	0.191	0.11
	Language		
6.	Point to a pencil and watch - patient to name them while pointing	-*	-
7.	Patient to repeat "No ifs, ands or buts	0.108	0.13

Item	Question	Reliability	ASE1
8.	Patient to follow a 3-point command	0.164	0.08
9.	Patient to read and obey	0.607	0.12
10.	Patient to write a sentence	0.679	0.11
11.	Patient to copy a design	0.588	0.13
Additional Items			
12.	Patient to count backwards (1-10)	0.195	0.18
13.	Patient to say a sentence using the word COW	0.087	0.16
14.	Patient to "do as I am doing"	0.490	0.17
Total Score		1.000	0.00

* Inadequate/incomplete data: no statistics computed

Hearing, Eyesight, Weight, Co-operativeness and Lucidity

Item	Reliability	ASE1
1. Hearing	-*	-
2. Eyesight	0.617	0.10
3. Weight	0.280	0.10
4. Co-operativeness	1.000	0.00
5. Lucidity	0.308	0.23

* Inadequate data: no statistics computed

III. HOUSING AND ENVIRONMENT

Item	Subject	Reliability	ASE1
1.	Type of Dwelling	-*	-
Amenities in Home			
2.	Electricity	1.000	0.00
3.	Inside Toilet	0.912	0.06

Item	Subject	Reliability	ASE1
4.	Outside Toilet	1.000	0.00
5.	Inside Tap	0.882	0.11
6.	Refrigerator	0.940	0.06
7.	Stove (gas/electric)	0.842	0.10
8.	Outside stairs	0.749	0.13
9.	Inside stairs	0.634	0.14
	Who patient lives with		
10.	Do you live with anyone (yes/no)	1.000	0.00
11.	Spouse	1.000	0.00
12.	Children/grandchildren	0.959	0.40
13.	Relatives	1.000	0.00
14.	Friends	0.661	0.31
15.	Boarding with others	-*	-
16.	Housing Unit for the Aged	-*	-
17.	Old Age Home	1.000	0.00
18.	Other	1.000	0.00
	Overcrowding		
19.	Rooms in Home	1.000	0.00
20.	Adults in Home	0.820	0.06
21.	Children <18 in Home	0.905	0.05
22.	Children younger than 10 years	0.625	0.13
23.	Children younger than 5 years	0.665	0.12
	Sharing of a Bedroom		
24.	Do you share a bedroom (yes/no)	0.802	0.09
25.	Spouse	0.898	0.07
26.	Child of 18+ years	0.345	0.17
27.	Child of <18 years	0.482	0.30
28.	Grandchild of 18+ years	0.547	0.17
29.	Grandchild of <18 years	0.797	0.11
30.	Other	0.619	0.16

Item Subject	Reliability	ASE1
Sharing of a Bed		
31. Do you share a bed (yes/no)	0.862	0.07
32. Spouse	0.755	0.22
33. Child of 18+ years	-*	-
34. Child of <18 years	-*	-
35. Grandchild of 18+ years	-*	-
36. Grandchild of <18 years	0.629	0.33
37. Other	1.000	0.00
Safety		
38. Do you feel safe where you live (yes/no)	-0.030	0.02
39. Have you been attacked/robbed	0.239	0.23
40. Has it happened in past 3 years	-*	-
Proximity to:		
41. Nearest cafe	0.425	0.09
42. Bus/train	0.362	0.09
43. Clinic/hospital	0.416	0.09
Responsibilities in the Home		
44. Do you have responsibilities (yes/no)	0.526	0.12
45. Housework	0.588	0.34
46. Cooking	0.588	0.34
47. Child Minding	0.588	0.34
48. Supervision of family member	0.588	0.34
49. Care of family member	-*	-
50. Other	-*	-
Potential Problems in Home		
51. Handicap (yes/no)	0.735	0.12
52. Physical handicap	0.462	0.21
53. Psychiatric handicap	0.462	0.27
54. Attendance at clinic/hospital (yes/no)	0.708	0.13

Item	Subject	Reliability	ASE1
55.	Regular use of prescription drugs	0.739	0.14
56.	Regular use of non-prescription drugs	0.548	0.22
57.	Use of alcohol	0.614	0.11
58.	problems with use of alcohol	0.429	0.30
59.	type of problem -financial/emotional	-*	-
60.	Use of dagga/mandrax	1.000	0.00
61.	rate - occasional/regular	-*	-
	Use of Transport		
62.	Type (private car/public)	0.750	0.08

* Inadequate data: no statistics computed

IV. FINANCIAL POSITION

Item	Subject	Reliability	ASE1
1.	Monthly income of patient	-*	-
	Source of Income		
2.	State Pension	1.000	0.00
3.	Civil Pension	0.935	0.06
4.	Private Pension	0,851	0.14
5.	Income from Investments	1.000	0.00
6.	Other	1.000	0.00
	Sources of other Income in Home		
7.	Is there another source (yes/no)	0.731	0.18
8.	Spouse	0.952	0.04
9.	Children	0.790	0.11
10.	Relatives	0.648	0.22
11.	Boarders	1.000	0.00
12.	Institution	1.000	0.00

Item	Subject	Reliability	ASE1
Sources of additional help			
13.	Is there another source (yes/no)	0.336	0.13
14.	Children	-*	-
15.	Relatives	0.600	0.34
16.	Friends	-*	-
17.	Other	-*	-
18.	Do you belong to a Medical Aid (yes/no)	1.000	0.00

* Inadequate data: no statistics computed

VI. SOCIAL SUPPORT NETWORK

(i) INFORMAL SUPPORTS

Item	Subject	Reliability	ASE1
Children			
1.	Number	0.763	0.09
2.	Still living	1.000	0.00
3.	Living in Cape Town area	0.941	0.04
Brothers and sisters			
4.	Number	0.621	0.09
5.	Still living	0.712	0.10
6.	Living in Cape Town area	0.763	0.09
Contact with children			
7.	Yes/No	-*	-
8.	Face to face	0.859	0.09
9.	Letters	-*	-
10.	Telephone	0.394	0.08

Item	Subject	Reliability	ASE1
	Contact with brothers and sisters		
11.	Yes/No	0.765	0.15
12.	Face to face	0.363	0.11
13.	Letters	0.458	0.32
14.	Telephone	0.539	0.17
	Contact with other relatives/friends		
15.	Yes/No	-*	-
16.	Face to face	0.058	0.80
17.	Letters	0.652	0.23
18.	Telephone	0.322	0.11
19.	Emergency contact	0.788	0.08
20.	Provision of care when sick	0.805	0.07
21.	Shopping for personal needs when sick	0.775	0.08
22.	Times when adult is in home	-*	-

(ii) COMMUNITY RESOURCES

Item	Type of Resource	Reliability	ASE1
1.	Day Hospital/clinic	0.737	0.09
2.	Private Doctor	0.709	0.09
3.	District Sister	-*	-
4.	Dentist	0.334	0.17
5.	Social Worker	-*	-
6.	Physiotherapist	-*	-
7.	Occupational Therapist	0.659	0.31
8.	Chiropodist	-*	-
9.	Home Help	0.472	0.15
10.	Meals-on-wheels	-*	-
11.	Nursing services	-*	-
12.	Friendly visitor	-*	-
13.	Service centre	0.173	0.15
14.	Social club	-*	-
15.	Old Age Home	0.649	0.18

Item	Type of Resource	Reliability	ASE1
16.	Holiday Relief	0.486	0.30
17.	Other	-*	-

* Inadequate/incomplete data: no statistics computed

(iii) SOCIAL WORK SERVICES

Item	Type of Input	Reliability	ASE1
1.	Referral to GSH Social Worker	0.473	0.14
2.	Knowledge of role of social worker	0.133	0.08
3.	Referral at any time to a social worker	0.391	0.13
4.	Place - Hospital/community		-0.143 0.10
5.	Satisfaction with service		-* -

* Inadequate data: no statistics computed

APPENDIX 4

APPENDIX 4 Medical Problems and PSM and IADL Scale Scores

1		PSM SCALE SCORES								
Activity	Major Medical Problem (N=240)	Independent		Minimum Assistance		Major Assistance		Dependent		P VALUE
		N	%	N	%	N	%	N	%	
Toiletting	Cardiovascular	73	30.42	9	3.75	-	-	3	1.25	0.026*
	All others	43	17.92	7	2.92	2	0.83	13	5.42	
	Pulmonary	39	16.25	5	2.08	1	0.42	2	0.83	
	Gastro Intestinal	28	11.67	7	2.92	1	0.42	7	2.92	
Feeding	Cardiovascular	80	33.33	2	0.83	1	0.42	2	0.83	0.057*
	All others	52	21.67	3	1.25	4	1.67	6	2.50	
	Pulmonary	45	18.75	-	-	-	-	2	0.83	
	Gastro Intestinal	39	16.25	-	-	-	-	4	1.67	
Dressing	Cardiovascular	59	24.58	2	0.83	19	7.92	5	2.08	0.202*
	All others	38	15.83	3	1.25	14	5.83	10	4.17	
	Pulmonary	38	15.83	1	0.42	6	2.50	2	0.83	
	Gastro Intestinal	27	11.25	-	-	12	5.00	7	1.67	
Grooming	Cardiovascular	63	26.25	4	1.67	16	6.67	2	0.83	0.007*
	All others	36	15.00	3	1.25	15	6.25	11	4.58	
	Pulmonary	41	17.08	1	0.42	3	1.25	2	0.83	
	Gastro Intestinal	26	10.83	1	0.42	12	5.00	4	1.67	
Physical Ambulation	Cardiovascular	55	22.92	26	10.83	1	0.42	3	1.25	0.092*
	All others	33	13.75	20	8.33	2	0.83	10	4.17	
	Pulmonary	34	14.17	10	4.17	1	0.42	2	0.83	
	Gastro Intestinal	23	9.58	12	5.00	3	1.25	5	2.08	
Bathing	Cardiovascular	53	22.08	23	9.58	7	2.92	2	0.83	0.0001*
	All others	30	12.50	16	6.67	3	1.25	16	6.67	
	Pulmonary	28	11.67	17	7.08	-	-	2	0.83	
	Gastro Intestinal	23	9.589	7	2.92	7	2.92	6	2.50	

* Inadequate Data in some cells: Test not considered valid

2		PSM SCALE SCORES								
		Independent		Minimum Assistance		Major Assistance		Dependent		
Activity	Secondary Medical Problem (N = 240)	N	%	N	%	N	%	N	%	P VALUE
Toiletting	Yes	37	15.42	5	2.08	2	0.83	4	1.67	
	No	146	60.83	23	9.58	2	0.83	21	8.75	0.460*
Feeding	Yes	44	18.33	1	0.42	2	0.83	1	0.42	
	No	172	71.67	4	1.67	3	1.25	13	5.42	0.438*
Dressing	Yes	33	13.75	4	1.67	8	3.33	3	1.25	
	No	129	53.75	2	0.83	43	17.92	18	7.50	0.027*
Grooming	Yes	33	13.75	4	1.67	8	3.33	3	1.25	
	No	133	55.42	5	2.08	38	15.83	16	6.67	0.288*
Physical Ambulation	Yes	36	15.00	7	2.92	2	0.83	3	1.25	0.080*
	No	109	45.42	61	25.42	5	2.08	17	7.08	
Bathing	Yes	30	12.50	12	5.00	2	0.83	4	1.67	
	No	104	43.33	51	21.25	15	6.25	22	9.17	0.664*

* Inadequate Data in some cells: Test not considered valid

3		IADL SCALE SCORES								
	Major Medical Problem (N=241)	Independent		Minimal Assistance		Major Assistance		Dependent		P VALUE
		N	%	N	%	N	%	N	%	
Telephone Use	Cardiovascular	59	24.48	7	2.90	10	4.15	9	3.73	0.021*
	All others	33	13.69	3	1.24	8	3.32	21	8.71	
	Pulmonary	37	15.35	1	0.41	5	2.07	4	1.66	
	Gastrointestinal	29	12.03	2	0.83	3	1.24	10	4.15	
Shopping	Cardiovascular	7	2.90	20	8.30	21	8.71	37	15.35	0.254
	All others	4	1.66	11	4.56	7	2.90	43	17.84	
	Pulmonary	4	1.66	12	4.98	12	4.98	19	7.88	
	Gastrointestinal	3	1.24	10	4.15	7	2.90	24	9.96	
Food Preparation	Cardiovascular	27	11.20	11	4.56	22	9.13	25	10.37	0.020
	All others	17	7.05	2	0.83	6	2.49	40	16.60	
	Pulmonary	12	4.98	5	2.07	10	4.15	20	8.30	
	Gastrointestinal	13	5.39	3	1.24	7	2.90	21	8.71	
Housework	Cardiovascular	9	3.73	40	16.60	7	2.90	29	12.03	0.036*
	All others	5	2.07	21	8.71	1	0.41	38	15.77	
	Pulmonary	6	2.49	16	6.64	4	1.66	21	8.71	
	Gastrointestinal	33	1.24	11	4.56	7	2.90	23	9.54	
Laundry	Cardiovascular	12	4.98	29	12.03	11	4.56	33	13.69	0.076
	All others	6	2.49	14	5.81	3	1.24	42	17.43	
	Pulmonary	6	2.49	18	7.47	1	0.41	22	9.13	
	Gastrointestinal	5	2.07	12	4.98	6	2.49	21	8.71	
Use of Transport	Cardiovascular	23	9.54	16	6.64	3	13.69	13	5.39	0.074
	All others	9	3.73	12	4.98	27	11.20	17	7.05	
	Pulmonary	18	7.47	9	3.73	9	3.73	11	4.56	
	Gastrointestinal	11	4.56	11	4.56	11	4.56	11	4.56	

3 (contd)		IADL SCALE SCORES								
	Major Medical Problem (N = 241)	Independent		Minimal Assistance		Major Assistance		Dependent		P VALUE
		N	%	N	%	N	%	N	%	
Responsibility for Medication	Cardiovascular	60	24.90	4	1.66	17	7.05	4	1.66	0.004*
	All others	31	12.86	-	-	21	8.71	13	5.39	
	Pulmonary	33	13.69	1	0.41	13	5.39	-	-	
	Gastrointestinal	25	10.37	1	0.41	12	4.98	6	2.49	
Handling of Finances	Cardiovascular	50	20.75	9	3.73	11	4.56	15	6.22	0.0314*
	All others	28	11.62	5	2.07	5	2.07	27	11.20	
	Pulmonary	32	13.28	4	1.66	1	0.41	10	4.15	
	Gastrointestinal	23	9.54	6	2.49	2	0.83	13	5.39	

* Inadequate Data in some cells: Test not considered valid

4	Secondary Medical Problem (N=241)	NEED TO UNDERTAKE IADL								P VALUE
		Independent		Minimum Assistance		Major Assistance		Dependent		
		N	%	N	%	N	%	N	%	
Telephone Use	No	32	13.28	2	0.83	5	2.07	9	3.73	
	Yes	126	52.28	11	4.56	21	8.71	35	14.52	0.979
Shopping	No	9	3.73	5	2.07	13	5.39	21	8.71	
	Yes	9	3.75	48	19.92	34	14.11	102	42.32	0.001
Food Preparation	No	14	5.81	2	0.83	8	3.32	24	9.96	
	Yes	55	22.82	19	7.88	37	15.35	82	34.02	0.562
Housework	No	9	3.75	15	6.22	4	1.66	20	8.30	
	Yes	14	5.81	73	30.29	15	6.22	91	37.76	0.109
Laundry	No	11	4.56	11	4.56	6	2.49	20	8.30	
	Yes	18	7.47	62	25.73	15	6.22	98	40.66	0.035
Transportation	No	16	6.64	13	5.39	10	4.15	9	3.73	
	Yes	45	18.67	35	14.52	70	29.05	43	17.84	0.109*
Medication	No	27	11.20	-	-	17	7.05	4	1.66	
	Yes	122	50.62	6	2.49	46	19.09	19	7.88	0.277
Finances	No	27	11.20	1	0.41	4	1.66	16	6.64	
	Yes	106	43.98	23	9.54	15	6.22	49	20.33	0.198

* Inadequate Data in some cells: Test not considered valid

5		PSM SCALE TOTAL SCORES				
		6 - 15		16 - 24		
MEDICAL PROBLEM (N = 240)		N	%	N	%	P VALUE
MAJOR	Cardiovascular	81	33.75	4	1.67	
	All Others	48	20.00	17	7.08	
	Pulmonary	45	18.75	2	0.83	
	Gastrointestinal	36	15.00	7	2.92	0.0001
SECONDARY	No	42	17.50	6	2.50	
	Yes	168	70.00	24	10.00	1.000

6		IADL SCALE TOTAL SCORES				
		8 - 20		21 - 32		
MEDICAL PROBLEM (N = 241)		N	%	N	%	P VALUE
MAJOR	Cardiovascular	55	22.82	30	12.45	
	All Others	26	10.79	39	16.18	
	Pulmonary	27	11.20	20	8.30	
	Gastrointestinal	24	9.96	20	8.30	0.026
SECONDARY	No	23	9.54	25	10.37	
	Yes	109	45.23	84	34.84	0.286

APPENDIX 5

APPENDIX 5: Statistical Analysis of Data Relating to Readmission

1. DEMOGRAPHIC CHARACTERISTICS		PREVIOUS OVERNIGHT ADMISSION				
		NO		YES		
		N	%	N	%	P VALUE
Population Group (N = 360)	Black	38	10.56	25	6.94	0.003
	Coloured/Asian	112	31.11	125	34.72	
	White	42	11.67	18	5.00	
Sex (N = 360)	Male	85	23.06	72	20.00	0.943
	Female	109	30.28	96	26.67	
Age (N = 360)	65 - 69	58	16.11	47	13.06	0.536
	70 - 74	50	13.89	40	11.11	
	75 - 79	42	11.67	49	13.61	
	80 - 84	26	7.22	17	4.70	
	85+	16	4.44	15	4.17	
Marital Status (N = 342)	Married, Common Law Spouse,	74	21.64	53	15.50	0.128
	Widowed, Divorced, Separated, Single	107	31.29	108	31.58	
Place of Birth (N = 299)	South Africa	109	36.45	120	40.13	0.013
	Homelands	33	11.04	17	5.69	
	British Isles	6	2.01	-	-	
	Europe	3	1.00	1	0.33	
	Other (eg. India)	4	-	6	2.01	
Stay in Cape Province (N = 301)	Health Reasons	8	2.66	5	1.66	0.145
	Holiday	3	1.00	-	-	
	Less than 1 year	2	0.66	-	-	
	1 - 5 years	-	-	1	0.33	
	6 - 10 years	2	0.66	-	-	
	Over 10 years	142	47.18	138	45.85	

2. ACTIVITIES OF DAILY LIVING		PREVIOUS OVERNIGHT ADMISSION				
		NO		YES		
2.1 Physical Self Maintenance PSM Scale (N = 241)		N	%	N	%	P VALUE
	Independent	101	41.39	86	35.25	
	Needs Assistance/Supervision	11	4.51	17	6.97	
	Cannot use toilet, but not incontinent	1	0.41	3	1.23	0.198*
Toiletting	Cannot use toilet, incontinent bowels/bladder	16	6.56	9	3.69	
	Independent, normal diet	118	48.36	102	41.80	
	Supervision/Assistance required, normal diet	2	0.82	3	1.23	
	Assistance required, special diet	1	0.41	4	1.64	0.448*
Feeding	Must be fed, special diet	8	3.28	6	2.46	
	Independent	90	36.89	76	31.15	
	Supervision: Selection, dressing, undressing	3	1.23	3	1.23	
	Assistance: Selection, dressing, undressing	24	9.84	27	11.07	0.805*
Dressing	Dependent: Selection, dressing, undressing	12	4.92	9	3.69	
	Independent	93	38.11	77	31.56	
	Supervision required	3	1.23	6	2.46	
	Assistance required	24	9.84	22	9.02	0.604*
Grooming	Dependent	9	3.69	10	4.10	
	Goes about grounds/city	85	34.84	63	25.82	
	Ambulates slowly or has an Aid	29	11.89	40	16.39	
Ambulation	Sits unsupported in chair only	4	1.64	3	1.23	0.205*
	Bedridden more than half the time	11	4.51	9	3.69	
	Independent	84	34.43	53	21.72	
	Needs Supervision/Assistance	23	9.43	41	16.80	
	Can only wash face and hands	8	3.28	9	3.69	
Bathing	Dependent	14	5.74	12	4.92	0.009
	06 - 15	113	46.31	101	41.39	
Total Scores	16 - 24	16	6.56	14	5.74	0.957

* Inadequate Data in some cells: Statistical test not considered valid

2. ACTIVITIES OF DAILY LIVING 2.2 Instrumental Activities and Daily Living (IADL) Scale (N = 245)		PREVIOUS OVERNIGHT ADMISSION NO		YES		
		N	%	N	%	P VALUE
(a) ABILITY						
	Independent	88	35.92	73	29.80	
	Can dial, a few numbers, and answer	5	2.04	9	3.67	
Telephone Use	Able to answer, not able to dial	12	4.90	14	5.71	
	Dependent	25	10.20	19	7.76	0.457
	Independent	16	6.53	3	1.22	
	Can do light shopping on own	31	12.65	24	9.80	
	Needs to be accompanied	27	11.02	20	8.16	
Shopping	Dependent	56	22.86	68	27.76	0.011
	Independent	44	17.96	27	11.02	
	Can prepare a meal but not plan	15	6.12	6	2.45	
	Can heat a prepared meal	21	8.57	26	10.61	
Food Preparation	Dependent	50	20.41	56	22.86	0.048
	Independent	19	7.76	5	2.04	
	Able to perform light tasks	50	20.41	41	16.73	
	Performs light tasks when supervised	10	4.08	9	3.67	
Housework	Dependent	51	20.82	60	24.49	0.030
	Independent	25	10.20	5	2.04	
	Can launder small items	41	16.73	35	14.29	
	Can launder small items if supervised	8	3.27	13	5.31	
Laundry	Dependent	56	22.86	62	25.31	0.002
	Independent	41	16.73	22	8.98	
	Can travel by bus/train if accompanied	24	9.80	25	10.20	
	Can only travel by taxi/car	42	17.14	39	15.92	
Transport	Can only travel by ambulance	23	9.39	29	11.84	0.130

	Independent	85	34.69	68	27.76	
	Needs to be reminded	3	1.22	3	1.22	
	Medication must be handed to patient	28	11.43	35	14.29	
Medication	Dependent	14	5.71	9	3.67	0.416*
	Independent	80	32.65	56	22.86	
	Manages day to day purchases independently	13	5.31	12	4.90	
	Manages day to day purchases if supervised	7	2.86	12	4.90	
Finances	Dependent	30	12.24	35	14.29	0.166
	00 - 15	82	33.47	54	22.04	
Total Scores	16 - 21	48	19.58	61	24.90	0.011
(b) **NEED**						
	Yes	90	36.73	83	33.88	
Telephone in home	No	40	16.33	32	13.06	0.614
	Yes	11	4.49	4	1.63	
Shopping	No	119	48.57	111	45.31	0.104
	Yes	12	4.90	4	1.63	
Food Preparation	No	118	48.16	111	45.31	0.069
	Yes	4	1.63	2	0.82	
Housework	No	126	51.43	113	46.12	0.499*
	Yes	6	2.45	2	0.82	
Laundry	No	124	50.61	113	46.12	-0.081*
	Yes	44	17.96	39	15.92	
Transport	No	86	35.10	76	31.02	0.991
	Yes	36	14.69	32	13.06	
Medication	No	94	38.37	83	33.88	0.981
	Yes	62	25.31	44	17.96	
Finances	No	68	27.76	71	28.98	0.137

* Inadequate Data in some cells: Statistical test not considered valid

3. EDUCATION, OCCUPATION AND LEISURE ACTIVITIES SCALE		PREVIOUS OVERNIGHT ADMISSION NO		YES		
3.1 Education		N	%	N	%	P VALUE
Education (N = 236)	No schooling	19	8.05	18	7.63	
	Attended Primary School	48	20.34	41	17.37	
	Completed Primary School/Std 5	18	7.63	19	8.05	0.348
	Attended High School	30	12.71	31	13.14	
	Completed High School/Std 10	3	1.27	-	-	
	Diploma/Degree	7	2.97	2	0.85	
3.2 Occupation						
Presently Working (N = 245)	Yes	3	1.22	-	-	
	No	127	51.84	115	46.94	-0.105*
Working Life Occupation (N = 240)						
Unskilled	Yes	78	32.50	75	31.25	
	No	49	20.42	30	15.83	0.425
Semi-skilled	Yes	10	4.17	17	7.08	
	No	117	48.75	96	40.00	0.079
Skilled	Yes	15	6.25	8	3.33	
	No	112	46.67	105	43.75	0.214
Professional/ Managerial	Yes	7	2.92	3	1.25	
	No	120	50.00	110	45.83	0.269
Housewife	Yes	73	30.42	65	27.08	
	No	54	22.50	48	20.00	0.995

3.3 Leisure Activities Scale						
Outings						
Participation	Yes	96	39.18	82	33.47	
(N = 245)	No	34	13.88	33	13.47	0.656
Frequency	Most days	29	16.29	25	14.04	
(N = 184)	Several times a week	9	5.06	13	7.30	
	Once or twice a month	44	24.72	36	26.22	0.499
	Seldom	14	7.87	8	4.49	
Visitors						
Participation	Yes	123	50.41	113	46.31	
(N = 245)	No	6	2.46	2	0.82	0.202
Frequency	Most days	13	5.51	10	4.24	
(N = 236)	Several times a week	12	5.08	11	4.66	
	Once or twice a month	58	24.58	54	22.88	0.977
	Seldom	40	16.95	38	16.40	
Religion						
Participation	Yes	123	50.62	107	44.03	
(N = 243)	No	5	2.06	8	3.29	0.291
Frequency	Every week if possible	34	14.78	22	9.57	
(N = 230)	Several times a month	47	20.43	41	17.83	
	Seldom	9	3.91	9	3.91	
	Never goes to church	33	14.35	35	15.22	0.586
Outdoor Activities/ Exercise						
Participation	Yes	20	8.16	8	3.27	
(N = 245)	No	110	44.90	107	43.67	0.039
Frequency	Most days	1	3.57	3	10.71	
(N = 20)	Several times a week	3	10.71	-	-	
	Seldom	9	32.14	4	14.29	
	Occasionally	7	25.00	1	3.57	0.091
Social Clubs/ Groups						
Participation	Yes	18	7.41	9	3.70	
(N = 243)	No	110	45.27	106	43.62	0.122
Frequency	At least once a week	0	-	3	11.11	
(N = 27)	Fortnightly	4	14.81	2	7.41	
	At least once a month	-	-	-	-	
	Seldom	14	51.85	4	14.81	0.030

Hobbies						
Participation	Yes	35	14.34	24	9.84	
(N = 244)	No	94	38.52	91	37.30	0.254
Frequency	Most days	9	15.25	10	16.95	
(N = 59)	Weekly	3	5.08	1	1.69	
	Once a fortnight	12	20.34	6	10.17	
	Seldom	11	18.64	7	11.86	0.581
Books/Newspapers						
Participation	Yes	74	30.45	79	29.63	
(N = 243)	No	54	22.22	43	17.70	0.446
Frequency	Daily	17	11.64	14	9.59	
(N = 146)	Approximately once a week	0	-	4	2.74	
	Maybe one a fortnight	16	10.96	19	13.01	
	Seldom	41	28.08	35	23.97	0.172
Radio/TV						
Participation	Yes	115	47.13	101	41.39	
(N = 244)	No	14	5.74	14	15.74	0.747
Frequency	Daily	18	8.33	22	10.19	
(N = 216)	Weekly	-	-	-	-	
	Fortnightly	10	4.63	18	40.28	
	Seldom	87	40.28	61	28.24	0.041
Cards						
Participation	Yes	16	6.56	10	4.10	
(N = 244)	No	113	46.31	105	43.03	0.349
Frequency	Daily	8	30.77	1	3.85	
(N = 26)	Weekly	0	-	3	11.54	
	Fortnightly	7	26.92	3	11.54	
	Seldom	1	3.85	3	11.54	0.017*
Total Score	00 - 18	106	43.27	24	9.80	
(N = 245)	19 - 36	100	40.82	15	6.12	0.247

* Inadequate Data in some cells: Statistical test not considered valid

4. PHILADELPHIA GERIATRIC CENTRE (PGC) MORALE SCALE		PREVIOUS OVERNIGHT ADMISSION					
			NO		YES		
		Score	N	%	N	%	P VALUE
(N = 219)	Do you think things keep getting worse as you get older?	0 1	70 46	31.96 21.00	75 28	34.25 12.79	0.051
(N = 220)	Do you have as much pep as you had last year?	0 1	107 10	48.64 4.55	94 9	42.73 4.09	0.960
(N = 220)	How much (often) do you feel lonely?	0 1	19 98	8.64 44.55	16 87	7.27 39.55	0.887
(N = 219)	Do you find that little things bother you more this year?	0 1	41 75	18.72 34.25	45 58	20.55 26.48	0.207
(N = 219)	Would you say you see enough of your friends and relatives?	0 1	9 107	4.11 48.86	4 99	1.83 45.21	0.226
(N = 218)	Would you say that as you get older you are less useful?	0 1	99 17	45.41 7.80	88 14	40.37 6.42	0.845
(N = 217)	If you could live where you wanted, where would you live?	0 1	15 100	6.91 46.08	9 93	4.15 42.86	0.067
(N = 218)	Do you find that sometimes you worry so much you can't sleep?	0 1	29 87	13.30 39.91	27 75	12.39 34.40	0.804
(N - 214)	Do you think that as you get older things are better, worse or the same?	0 1	90 24	42.06 11.21	88 12	41.12 5.61	0.077
(N = 216)	Do you feel that sometimes life isn't worth living?	0 1	40 75	18.52 34.72	37 64	17.13 29.63	0.777
(N = 217)	Do you feel you are as happy now as when you were younger?	0 1	48 67	22.12 30.88	47 55	21.66 25.35	0.520
(N = 216)	Do you feel you have a lot to be sad about?	0 1	32 83	14.81 38.43	29 72	13.43 33.33	0.885

4. PHILADELPHIA GERIATRIC CENTRE (PGC) MORALE SCALE		PREVIOUS OVERNIGHT ADMISSION				
			NO		YES	
	Score	N	%	N	%	P VALUE
(N = 210) Would you say people had it better in the old days?	0	87	41.43	82	10.40	
	1	22	39.05	19	9.05	0.802
(N = 216) Are you afraid of a lot of things?	0	18	8.33	14	6.48	
	1	97	44.91	87	40.28	0.712
(N = 217) Do you get mad more than you used to?	0	42	19.35	35	16.13	
	1	73	33.64	67	30.88	0.734
(N = 215) Do you think that life is hard for you most of the time?	0	28	13.02	29	13.49	
	1	87	40.47	71	33.02	0.441
(N = 215) How satisfied are you with your life today?	0	20	9.30	22	10.23	
	1	95	44.19	78	36.28	0.395
(N = 216) Do you find you take things hard?	0	40	18.52	35	16.20	
	1	74	34.26	67	31.02	0.905
(N = 217) Do you think a person has to live for today and not worry about tomorrow?	0	43	19.82	37	17.05	
	1	72	33.18	65	29.95	0.865
(N = 211) Would you say your health is same, better or worse than most people of your age?	0	14	6.64	27	12.80	
	1	98	46.45	72	34.12	0.007
(N = 216) Do you find you get upset easily?	0	48	22.22	53	24.54	
	1	66	30.56	49	22.69	0.147
(N = 220) Total Scores 00-11	1	34	15.45	34	15.45	
12-21	1	83	37.73	69	31.36	0.527

5. MINI MENTAL STATE EXAMINATION (MMSE)				PREVIOUS OVERNIGHT ADMISSION				
				NO		YES		
			Score	N	%	N	%	P VALUE
Orientation (N = 217)	What is the:	Year	0	7	3.23	2	0.92	
		Season	1	8	3.69	6	2.76	
		Date	2	9	4.15	11	5.07	
		Day	3	8	3.69	14	6.45	
		Month	4	26	11.98	23	10.60	
			5	58	26.73	45	20.74	0.335
	What are we:	State/Country/Province	0	8	3.69	1	0.46	
		Town/City	1	4	1.84	1	0.46	
		Hospital/Suburb	2	8	3.69	6	2.76	
		Floor/Street	3	13	5.99	11	5.07	
			4	20	9.22	23	10.60	
			5	63	29.03	59	27.19	0.218*
Registration	Name 3 objects ... and ask patient to repeat ...		0	2	0.93	0	-	
			2	1	0.47	1	0.47	
			3	111	51.63	100	46.51	0.418*
Attention and Calculation (N = 214)	Serial Sevens:	spell world backwards	n	17	7.94	19	8.88	
			0	60	28.04	50	23.36	
			5	36	16.82	32	14.95	0.747
Recall (N = 214)	Ask for names of 3 objects already learned		0	19	8.88	13	6.07	
			1	6	2.80	9	4.21	
			2	28	13.08	30	14.02	
			3	30	28.04	49	22.90	0.524
Language (N = 215)	Naming:	Pencil and watch	0	2	0.93	0	-	
			1	8	3.72	5	2.33	
			2	104	48.37	96	44.65	0.327*
	Repeating:	no ifs, and or buts	n	3	1.40	2	0.93	
			0	40	18.60	36	16.74	
			1	71	33.02	63	29.30	0.950

Command (N = 213)	Following a Command	0	6	2.82	3	1.41	
		1	16	7.51	16	7.51	
		2	32	15.02	33	15.49	
		3	58	27.23	49	23.00	0.751*
Reading/obeying (N = 214)	Patient to read and obey Command "CLOSE YOUR EYES"	n	16	7.46	14	6.54	
		0	19	8.88	24	11.21	
		1	78	26.45	63	29.44	0.440
Writing (N = 214)	Patient to write a sentence of choice	n	22	10.28	22	10.28	
		0	35	16.36	37	17.29	
		1	56	26.17	42	19.63	0.500
Copying (N = 213)	Patient to copy	n	21	9.86	16	7.51	
		0	56	26.29	64	30.05	
		1	35	16.45	21	9.86	0.125
Additional Items (N = 214)	Count backwards from 10-1	n	1	0.47	0	-	
		0	27	12.62	18	8.41	
		1	85	39.72	83	38.79	0.340*
	Make up a sentence	n	1	0.47	-	-	
		0	25	11.68	27	12.62	
		1	87	40.65	74	34.58	0.482*
	Follow action of interviewer	n	1	0.47	-	-	
		0	14	6.54	10	4.67	
		1	98	45.79	91	42.52	0.533*
Total Score (N = 217)	00-16		21	9.68	11	5.07	
	17-33		95	43.78	90	41.47	0.135

* Inadequate Data in some cells: Statistical test not considered valid

6. HEARING, EYESIGHT, WEIGHT, CO-OPERATIVES AND LUCIDITY		PREVIOUS OVERNIGHT ADMISSION				
		NO		YES		
		N	%	N	%	P VALUE
Hearing	Normal	86	37.07	78	33.62	
	Partially Deaf/Deaf	33	14.22	35	15.09	0.588
Eyesight	Normal	60	25.86	42	18.10	
	Partially Sighted/Blind	59	25.43	71	30.60	0.042
Weight	Normal	42	18.58	37	16.37	
	Overweight	27	11.95	17	7.52	
	Underweight	46	20.35	57	25.22	0.158
Co-operation	Yes	109	49.55	99	45.00	
	No	8	3.64	4	1.82	0.336
Lucidity	Yes	106	48.18	96	43.64	
	No	11	5.00	7	3.18	0.482

7. FINANCIAL POSITION			PREVIOUS OVERNIGHT ADMISSION				
			NO		YES		
			N	%	N	%	P VALUE
Patient's Monthly Income (N = 351)	0 - R99		6	1.71	4	1.14	
	R100 - R199		38	10.83	23	6.55	
	R200 - R299		112	31.91	123	35.04	
	R300 - R449		7	1.99	8	2.28	
	R450 - R899		9	2.56	8	2.28	0.066
	R900+		11	3.13	2	0.57	
Source (N = 336)	State Pension	Yes	147	43.62	144	42.73	
		No	28	8.31	18	5.34	0.192
	Civil Pension	Yes	14	4.17	8	2.38	
		No	160	47.62	154	45.83	0.250
	Private Pension	Yes	6	1.79	8	2.38	
		No	168	50.00	154	45.83	0.495
	Income from Investments	Yes	8	2.38	5	1.49	
		No	166	49.40	157	46.73	0.473
	Other	Yes	6	1.79	2	0.60	
		No	168	50.00	160	47.62	0.184
Other Family Income	Yes		115	47.13	96	39.34	
	No (N = 244)		15	6.15	18	7.38	0.333

7. FINANCIAL POSITION			PREVIOUS OVERNIGHT ADMISSION				
			NO		YES		
			N	%	N	%	P VALUE
Source (N = 211)	Spouse	Yes	35	16.59	27	12.80	
		No	80	37.91	69	32.70	0.714
	Children	Yes	77	36.49	66	31.28	
		No	38	18.01	30	14.22	0.781
	Relatives	Yes	9	4.27	8	3.79	
		No	106	50.24	88	41.71	0.893
	Boarders	Yes	6	2.84	6	2.84	
		No	109	51.66	90	42.65	0.747
	Institution	Yes	10	4.74	5	2.37	
		No	105	49.76	91	43.13	0.326
Additional non-household aid	Yes		33	13.81	32	13.39	
	No (N = 239)		93	38.81	81	33.89	0.712
Source (N = 65)	Children	Yes	30	46.15	30	46.15	
		No	3	4.62	2	3.08	0.667*
	Relatives	Yes	5	7.69	6	9.23	
		No	28	43.08	26	40.00	0.699
	Friends	Yes	1	1.54	-	-	
		No	32	49.23	32	49.23	0.321*
	Other	Yes	-	-	1	1.54	
		No	33	50.77	31	47.69	0.306
Membership of Medical Aid Fund (N = 247)	Yes		10	4.05	3	1.21	
	No		123	49.80	111	44.94	0.086

* Inadequate Data in some cells: Statistical test not considered valid

8. HOUSING AND ENVIRONMENT		PREVIOUS OVERNIGHT ADMISSION				
		NO		YES		
		N	%	N	%	P VALUE
8.1 Type of Dwelling (N = 304)						
	Own House	74	24.34	68	22.37	
	Rented House	45	14.80	53	17.43	
	Own Flat	1	0.33	-	-	
	Rented Flat	9	2.96	11	3.62	
	Room only	2	0.66	1	0.33	
	Shack	6	1.97	2	0.66	
	Housing Unit for the Aged	3	0.99	5	1.64	
	Old Age Home	7	2.30	7	2.30	
	Other	9	2.96	1	0.33	0.194
8.2 **Amenities in the home**						
	Yes	139	45.72	135	44.41	
Electricity	No	17	5.59	13	4.28	0.035
Inside Toilet	Yes	119	39.14	120	39.47	
	No	37	12.17	28	9.21	0.308
Inside Tap	Yes	144	47.37	141	46.38	
	No	12	3.95	7	2.30	0.286
Refrigerator	Yes	136	44.74	133	43.75	
	No	20	6.58	15	4.93	0.463
Stove (gas/electric)	Yes	136	44.74	134	44.08	
	No	20	6.58	14	4.61	0.353
Outside Stairs	Yes	147	48.51	134	44.22	
	No	8	2.64	14	4.62	0.150
Inside Stairs	Yes	16	5.28	8	2.64	
	No	139	45.87	140	46.20	0.113

8. HOUSING AND ENVIRONMENT		PREVIOUS OVERNIGHT ADMISSION				
		NO		YES		
		N	%	N	%	P VALUE
8.3 **Living Arrangements (N = 305)**						
Living with someone	Yes	153	50.16	140	45.90	
	No	4	1.31	8	2.62	0.200
Spouse	Yes	53	18.09	45	15.36	
	No	100	34.13	95	32.42	0.651
Children/grandchildren	Yes	109	37.20	95	32.42	
	No	44	15.02	45	15.36	0.529
Relatives	Yes	16	5.46	13	4.44	
	No	137	46.76	127	43.34	0.737
Friends	Yes	3	1.02	9	3.07	
	No	150	51.19	131	44.71	0.054
Boarding with others	Yes	3	1.02	5	1.71	
	No	150	51.19	135	46.08	0.398*
Housing Unit for Aged	Yes	1	0.34	2	0.68	
	No	152	51.88	138	47.10	0.510*
Old Age Home	Yes	7	2.39	7	2.39	
	No	146	49.83	133	45.39	0.865
Other	Yes	8	2.73	3	1.02	
	No	145	49.49	137	46.76	0.165

* Inadequate Data in some cells: Statistical test not considered valid

8. HOUSING AND ENVIRONMENT 8.4 Rooms, Adults and Children in Home	PREVIOUS OVERNIGHT ADMISSION											
	Rooms (N = 233)[1]				Adults (N = 233)[2]				Children (N = 233)[3]			
	NO		YES		NO		YES		NO		YES	
NUMBER	N	%	N	%	N	%	N	%	N	%	N	%
00	-	-	-	-	-	-	-	-	46	19.74	50	21.46
01	10	4.29	8	3.43	4	1.72	10	4.29	19	8.15	16	6.87
02	11	4.72	11	4.72	22	9.44	20	8.58	22	9.44	22	9.44
03	48	20.60	39	16.74	37	15.88	30	12.88	21	9.01	10	4.29
04	35	15.02	43	10.45	23	9.87	21	9.01	5	2.15	6	2.58
05	12	5.15	3	1.29	17	7.30	16	6.87	7	3.00	3	1.29
06	3	1.29	6	2.58	9	3.86	12	5.15	-	-	-	-
07	2	0.86	1	0.43	6	2.58	2	0.86	-	-	2	0.86
08	-		-	-	2	0.86	1	0.43	-	-	2	0.86
09	-		1	0.43	1	0.43	-	-	-	-	-	-
10									-	-	1	0.43
11									-	-	-	-
12									1	0.43	-	-

P Values **1 = 0.227*** **2 = 0.543*** **3 = 0.231***

* Inadequate Data in some cells: Statistical test not considered valid

8. HOUSING AND ENVIRONMENT		PREVIOUS OVERNIGHT ADMISSION								
		Sharing a Bedroom					Sharing a Bed			
		No		Yes			No		Yes	
		N	%	N	%	P Value (N)	N	%	N	%	P VALUE (N)
8.5 **Sleeping Arrangements**	Yes	89	34.33	68	27.76	0.091	42	17.14	37	15.10	0.912
	No	40	16.33	48	19.59	(245)	87	35.51	79	32.24	(245)
Spouse	Yes	35	22.29	32	20.38	0.332	28	35.44	26	32.91	0.731
	No	54	34.39	36	22.93	(157)	14	17.72	11	13.92	(79)
Child 18+ years	Yes	27	17.20	12	7.64	0.068	7	8.86	2	2.53	0.116
	No	62	39.49	56	35.67	(157)	35	44.30	35	44.30	(79)
Child <18 years	Yes	4	2.55	2	1.27	0.615	-	-	-	-	-
	No	85	54.14	66	42.04	(157)	42	53.16	37	46.84	(79)
Grandchild 18+ years	Yes	9	5.73	8	5.10	0.741	3	3.80	2	2.53	0.752
	No	80	50.96	60	38.22	(157)	3	49.37	35	44.30	(79)
Grandchild <18 years	Yes	19	12.10	11	7.01	0.414	5	6.25	6	7.50	0.552
	No	70	44.59	57	36.31	(157)	38	47.50	31	38.75	(79)
Other	Yes	13	8.28	6	3.82	0.271	1	1.25	2	2.50	0.470
	No	76	48.41	62	39.49	(157)	42	32.50	35	43.75	(79)

8. HOUSING AND ENVIRONMENT				PREVIOUS OVERNIGHT ADMISSION				
				NO		YES		
				N	%	N	%	P VALUE (N)
8.6	Safety	Feelings of Safety	Yes	123	51.90	104	43.88	0.034*
			No	2	0.84	8	3.38	(237)
		Attacked/Robbed	Yes	12	5.02	13	5.44	0.617
			No	114	47.70	100	41.84	(239)
		In last 3 years	Yes	5	20.00	7	28.00	0.543
			No	7	28.00	6	24.00	(25)

8. HOUSING AND ENVIRONMENT	PREVIOUS OVERNIGHT ADMISSION					PREVIOUS OVERNIGHT ADMISSION					PREVIOUS OVERNIGHT ADMISSION				
	CAFE					BUS/TRAIN					MEDICAL CENTRE				
	NO		YES			NO		YES		P VALUE (N)	NO		YES		
	N	%	N	%	P VALUE (N)	N	%	N	%		N	%	N	%	P VALUE (N)
8.7 Distance in time															
Under 5 minutes	54	22.22	47	19.34		54	22.22	46	18.93		15	6.17	10	4.12	
Up to 15 minutes	56	23.05	45	18.52		47	19.34	40	16.46		38	15.64	23	9.47	
Not more than 30 minutes	12	4.94	16	6.58	0.650	16	6.58	14	5.76	0.739	48	19.75	51	20.99	0.224
30 minutes+	6	2.47	7	2.88	(243)	11	4.53	15	6.17	(243)	27	11.11	31	12.76	(243)

* Inadequate Data in some cells: Test not considered valid

8. HOUSING AND ENVIRONMENT		PREVIOUS OVERNIGHT ADMISSION				
		NO		YES		
		N	%	N	%	P VALUE (N)
8.8 Responsibilities in Home	No	26	10.70	15	6.17	
		103	42.39	19	40.74	(243)
Housework	Yes	19	46.34	7	17.07	0.091
	No	7	17.07	8	19.09	(41)
Cooking	Yes	24	58.54	9	21.95	0.012*
	No	2	4.88	6	14.63	(41)
Child Minding	Yes	6	14.63	4	9.76	0.797*
	No	20	48.78	11	26.83	(41)
Supervision of family member	Yes	4	9.76	3	7.32	0.705*
	No	22	53.66	12	29.27	(41)
Other	Yes	1	2.44	1	2.44	0.686
	No	25	60.98	14	34.15	(41)
8.9 Handicap amongst Family	Yes	15	6.52	14	6.09	0.959
	No	105	45.65	96	41.74	(230)
8.10 Attendance at Clinic/Hospital	Yes	108	44.81	103	42.74	0.112
	No	20	8.30	10	4.15	(241)
8.11 Regular use of Prescription Drugs	Yes	110	45.64	103	42.74	0.208
	No	18	7.47	10	4.15	(241)
8.12 Regular use of Non-Prescription Drugs	Yes	7	2.90	3	1.24	0.274*
	No	121	50.21	110	45.64	(241)
8.13 Use of Alcohol	Yes	29	12.61	27	11.74	0.947
	No	91	39.57	83	36.09	(230)
8.14 Use of Drugs (dagga)	Yes	1	0.44	2	0.88	0.520
	No	117	51.32	108	47.37	(228)
8.15 Type of Transport Used	Private Car	55	22.92	48	20.00	0.897
	Public/Taxi	72	30.00	65	27.08	(230)

* Inadequate Data in some cells: Statistical test not considered valid

9. SUPPORT NETWORK	PREVIOUS OVERNIGHT ADMISSION											
9.1 Social Supports	Born to/Adopted (N = 241)[1]				Still Alive (N = 220)[2]				Living in Cape Town (N = 216)[3]			
a) Children	NO		YES		NO		YES		NO		YES	
NUMBER	N	%	N	%	N	%	N	%	N	%	N	%
00	12	4.98	8	3.32	-	-	4	1.82	8	3.70	6	2.87
01	7	2.90	3	1.24	13	5.91	6	2.73	17	7.87	7	3.24
02	13	5.39	11	4.56	14	6.36	11	5.00	17	7.87	13	6.02
03	9	3.73	12	4.98	14	6.36	17	7.73	9	4.17	13	6.02
04	14	5.81	12	4.98	9	4.09	17	7.73	13	6.02	17	7.87
05	10	4.15	12	4.98	16	7.27	8	3.64	13	6.02	10	4.63
06	10	4.15	8	3.32	11	5.00	15	6.82	7	3.24	13	6.02
07	12	4.98	13	5.39	12	5.45	8	3.64	9	4.17	4	1.85
08	9	3.73	10	4.15	7	3.18	3	1.36	6	2.78	2	0.93
09	5	2.07	3	1.24	9	4.09	5	2.27	9	4.17	7	3.24
10	6	2.49	7	2.90	5	2.27	9	4.09	3	1.39	9	4.17
11	4	1.66	4	1.66	-	-	2	0.91	-	-	-	-
12	5	2.07	4	1.66	1	0.45	-	-	-	-	-	-
13	3	1.24	2	0.83	1	0.45	-	-	1	-	-	-
14	3	1.24	2	0.83	-	-	-	-	-	-	-	-
15	2	0.83	-	-	3	1.36	-	-	3	1.39	-	-
16	-	-	1	0.41								
17	1	0.41	-	-								
18	1	0.41	-	-								
19	1	0.41	1	0.41								
20	-	-	-	-								
21	1	0.41	-	-								

P Values [1] = **0.71***
[2] = **0.043***
[3] = **0.094***

* Inadequate Data in some cells: Statistical test not considered valid

9. SUPPORT NETWORK	PREVIOUS OVERNIGHT ADMISSION											
9.1 Social Supports	Natural/Adopted (N = 228)				Still Alive (N = 221)				Living in Cape Town (N = 160)			
b) Siblings	NO		YES		NO		YES		NO		YES	
	N	%	N	%	N	%	N	%	N	%	N	%
00	8	3.51	8	3.51	23	10.95	27	12.86	27	16.88	19	11.88
01	9	3.95	8	3.51	28	13.33	20	9.52	20	12.50	15	9.38
02	10	4.39	4	1.75	24	11.43	18	8.57	14	8.75	13	8.13
03	8	3.51	11	4.82	7	3.33	10	4.76	7	4.38	10	6.25
04	12	5.26	9	3.95	7	3.33	11	5.24	6	3.75	5	3.13
05	18	7.89	17	7.46	7	3.33	4	1.90	4	2.50	2	1.25
06	16	7.02	9	3.95	4	1.90	6	2.86	4	2.50	6	3.75
07	7	3.07	11	4.82	1	0.48	4	1.90	-	-	2	1.25
08	9	3.95	10	4.39	2	0.95	1	0.48	3	1.88	1	0.63
09	5	2.19	6	2.63	3	1.43	-	-	1	0.63	-	-
10	3	1.32	5	2.19	2	0.95	-	-	-	-	-	-
11	4	1.75	2	0.88	-	-	-	-	-	-	-	-
12	6	2.63	2	0.88	-	-	-	-	-	-	-	-
13	3	1.32	2	0.88	-	-	-	-	-	-	-	-
14	1	0.44	1	0.44	1	0.48	-	-	1	0.63	-	-
15	1	0.44	1	0.44	P Value = 0.294				P Value = 0.662			
16	-		-	-								
17	-		1	0.44								
21	-		1	0.44								
	P Value = 0.839*											

* Inadequate Data in some cells: Statistical test not considered valid

9. SUPPORT NETWORK		PREVIOUS OVERNIGHT ADMISSION													
		CHILDREN					SIBLINGS				OTHER RELATIVES (FRIENDS)				
		NO		YES		P VALUE (N)	NO		YES		P VALUE (N)	NO		YES		P VALUE (N)
9.2 Contact with Support		N	%	N	%		N	%	N	%		N	%	N	%	
Is there Contact	Yes	112	51.85	100	46.30	0.379*	76	44.71	68	40.00	0.055	119	50.00	10	45.80	0.628*
	No	3	1.39	1	0.46	(216)	19	11.18	7	4.12	(170)	6	2.52	9	1.68	(238)
														4		
Amount & Type	Daily	91	42.92	74	34.91		3	2.08	5	3.47		39	17.11	28	12.28	
Face-to-Face	Weekly	14	6.60	16	7.55		21	14.58	26	18.06		57	25.00	61	26.75	
	Monthly	1	6	5	5	0.264*	16	36	12	8.33	0.369*	11	4.82	10	4.39	0.629*
	<Monthly	6	0.47	5	2.36	(212)	36	11.11	25	17.36	(144)	12	5.26	10	4.39	(228)
			2.83		2.36			25.00								
Letters	Daily	-	-	-	-		-	-	-	-		-	-	-	-	
	Weekly	7	3.32	-	-		1	0.69	-	-		3	1.32	-	-	
	Monthly	4	1.90	2	0.95	0.028*	10	6.94	2	1.39	0.052*	2	0.88	-	-	0.096*
	<Monthly	100	47.39	98	46.45	(211)	65	45.14	66	45.83	(144)	114	50.00	10	47.81	(228)
														9		
Telephone	Daily	16	7.58	8	3.79		4	2.78	3	2.08		12	5.26	5	2.19	
	Weekly	25	11.85	32	15.17		22	15.28	21	14.58		32	14.04	32	14.04	
	Monthly	8	3.79	6	2.84	0.284	12	8.33	8	5.56	0.902*	7	3.07	9	3.95	0.409*
	<Monthly	62	29.38	54	25.59	(211)	38	26.39	36	25.00	(144)	68	29.82	63	27.63	(228)

SUPPORT NETWORK		PREVIOUS OVERNIGHT ADMISSION NO N	NO %	YES N	YES %	P VALUE
9.3 Adult in the home on a regular basis (N = 244)	All the time	107	43.85	95	38.93	
	All day but not night-time	1	0.41	2	0.82	
	Mornings only	1	0.41	-	-	0.768
	Afternoons only	11	4.51	6	2.46	
	Night-time only	4	1.64	4	1.64	
	No-one	6	2.46	7	2.87	

9. SUPPORT NETWORK	PREVIOUS OVERNIGHT ADMISSION											
	Emergency Contact (N = 242)[1]				Help in home when sick (N = 243)[2]				Shopping when sick (N = 243)[3]			
	NO		YES		NO		YES		NO		YES	
9.4 Support	N	%	N	%	N	%	N	%	N	%	N	%
Spouse	30	12.40	30	12.40	31	12.76	31	12.76	27	11.11	29	11.93
Child/Grandchild	75	30.99	62	25.62	72	29.63	57	23.46	77	31.69	62	25.51
Sibling	2	0.83	2	0.83	2	0.82	-	-	2	0.82	-	-
Relative/Friend	10	4.13	11	4.55	10	4.12	13	5.35	12	4.94	13	5.35
Neighbour	3	1.24	1	0.41	3	1.23	2	0.82	3	1.23	1	0.41
Other	-	-	4	1.65	-	-	5	2.06	-	-	5	2.06
Staff Member	8	3.31	4	1.65	8	3.29	4	1.65	8	3.29	3	1.23
No-one	-	-	-	-	3	1.23	2	0.82	-	-	1	0.41

P Values **1 = 0.337**
2 = 0.190
3 = 0.097

* Inadequate Data in some cells: Statistical test not considered valid

9. SUPPORT NETWORK 9.5 COMMUNITY RESOURCES		PREVIOUS OVERNIGHT ADMISSION NO		YES		
		N	%	N	%	P VALUE
a) Use of Community Resources						
Day Hospital/Clinic	No Use	55	22.82	47	19.50	
	Uses	73	30.29	66	27.39	0.829*
	Would Use	-	-	-	-	
House Doctor	No Use	66	27.39	56	23.24	
	Uses	61	25.31	57	23.65	0.599*
	Would Use	1	0.41	-	-	
District Sister	No Use	122	50.62	107	44.40	
	Uses	4	1.66	6	2.49	0.293*
	Would Use	2	0.83	-	-	
Dentist	No Use	123	51.04	106	43.98	
	Uses	2	0.83	3	1.24	0.714*
	Would Use	3	1.24	4	1.66	
Social Worker	No Use	122	50.62	110	45.65	
	Uses	3	1.24	2	0.83	0.641*
	Would Use	3	1.24	1	0.41	
Physiotherapist	No Use	124	51.45	109	45.23	
	Uses	4	1.66	3	1.24	0.544*
	Would Use	-	-	1	0.41	
Occupational Therapist	No Use	126	52.28	110	45.64	
	Uses	1	0.41	3	1.24	0.340*
	Would Use	1	0.41	-	-	
Chiropodist	No Use	122	50.62	109	45.23	
	Uses	5	2.07	3	1.21	0.861*
	Would Use	1	0.41	1	0.41	
Home Help	Uses	117	48.55	98	40.66	
	No Use	10	4.15	15	6.22	0.252*
	Would Use	1	0.41	-	-	

9. SUPPORT NETWORK 9.5 COMMUNITY RESOURCES		PREVIOUS OVERNIGHT ADMISSION NO N	 %	 YES N	 %	P VALUE
a) Use of Community Resources (contd)						
Meals-on-Wheels	Uses	126	52.28	112	46.47	
	No use	1	0.41	1	0.41	0.640*
	Would Use	1	0.41	-	-	
	Uses	125	51.87	111	46.06	
	No Use	3	1.24	2	0.83	0.755*
Nursing Services	Would Use	-	-	-	-	
	Uses	126	52.28	112	46.47	
	No Use	1	0.41	-	-	0.640*
Friendly Visitor	Would Use	1	0.41	1	0.41	
	No Use	117	48.55	107	44.40	
	Uses	4	1.66	1	0.41	0.438*
Service Centre	Would Use	7	2.90	5	2.07	
	No Use	114	47.30	103	42.74	
	Uses	11	4.56	5	2.07	0.304*
Social Club	Would Use	3	1.24	5	2.07	
	No Use	119	48.97	107	44.03	
	Uses	7	2.88	4	1.65	0.626*
Old Age Home	Would Use	4	1.65	2	0.82	
	No Use	125	51.87	111	46.06	
	Uses	-	-	-	-	0.755*
Holiday Relief	Would Use	3	1.24	2	0.83	
	No Use	123	51.04	110	45.64	
	Uses	3	1.24	3	1.24	0.407*
Other	Would Use	2	0.83	-	-	

9. SUPPORT NETWORK 9.5 COMMUNITY RESOURCES			PREVIOUS OVERNIGHT ADMISSION				
			NO		YES		
			N	%	N	%	P VALUE
b) Social Work Services							
(N = 235)	Referral to GSH Social Worker	Yes	11	4.60	23	9.79	
		No	113	40.09	88	37.45	0.010*
(N = 234)	Knowledge of role of Social Worker	Yes	84	35.90	80	17.09	
		No	40	17.09	30	12.82	0.406*
(N = 235)	Referral to a Social Worker	Yes	25	10.64	33	14.04	
		No	99	42.13	78	33.19	0.089*
(N = 57)	Where	Yes	14	24.56	19	19.30	
		No	11	33.33	13	22.81	0.798*
(N = 48)	Satisfaction with Service	Yes	15	31.25	7	14.58	
		No	18	37.50	8	16.67	0.938*

* Inadequate Data in some cells: Statistical test not considered valid

10. HOSPITAL DETAILS			PREVIOUS OVERNIGHT ADMISSION NO N	NO %	YES N	YES %	P VALUE
10.1 Medical Problems							
Major (N = 357)	Yes		187	52.38	167	46.78	0.632*
	No		2	0.56	1	0.28	
Type of Major Problem (N = 354)	Cardiovascular		68	19.21	51	14.41	0.495
	Pulmonary		34	9.60	38	10.73	
	Gastro-Intestinal		30	8.47	32	9.04	
	All Others		55	15.54	46	12.99	
Secondary (N = 354)	Yes		138	38.98	137	38.70	0.063
	No		49	13.84	30	8.47	
Type of Secondary Problem (N = 275)	Cardiovascular	Yes	91	33.09	84	30.55	0.425
		No	47	17.09	53	19.27	
	Cerebrovascular	Yes	16	5.82	18	6.55	0.697
		No	122	11.36	119	43.27	
	Pulmonary	Yes	30	10.91	28	10.18	0.791
		No	108	39.27	109	39.64	
	Neurological	Yes	4	1.45	7	2.55	0.350
		No	134	48.73	130	47.27	
	Musculo-Skeletal	Yes	21	7.64	19	6.91	0.751
		No	117	42.54	118	42.91	
	Gastro-Intestinal	Yes	17	6.18	20	7.27	0.580
		No	121	44.00	117	42.55	
	Renal	Yes	5	1.82	20	7.27	0.002
		No	133	48.36	117	42.55	

10. HOSPITAL DETAILS			PREVIOUS OVERNIGHT ADMISSION				
			NO		YES		
			N	%	N	%	P VALUE
Type of Secondary Problem (contd)	Endocrine	Yes	6	2.18	4	1.45	
		No	132	48.00	133	48.36	0.527*
	Diabetes	Yes	25	9.09	34	12.36	
		No	113	41.09	103	37.45	0.176
	Dermatological	Yes	3	1.09	5	1.82	
		No	135	49.09	132	48.00	0.467*
	Unspecified Malignancy	Yes	1	0.36	2	0.73	
		No	137	49.80	135	49.09	0.557*
	Other	Yes	9	3.27	19	6.91	
		No	129	46.91	118	42.91	0.044
10.2 Psychiatric Problems Major (N = 354)	Yes		20	5.65	17	4.80	
	No		167	47.18	150	42.37	0.874
Type (N = 37)	Confusion/ Delirium		7	18.92	8	21.62	
	Alcohol/Drug Abuse		3	8.11	2	5.41	0.796
	Dementia		5	13.51	5	13.51	
	Depression		1	2.70	1	2.70	
	Anxiety		2	5.41	0	-	
	Other		2	5.41	1	2.70	
Secondary (N = 354)	Yes		2	0.56	1	0.28	
	No		185	52.26	166	46.89	0.630

10. HOSPITAL DETAILS			PREVIOUS OVERNIGHT ADMISSION				
			NO		YES		
			N	%	N	%	P VALUE
10.3 Transfer After Admission (N = 360)	Home		112	31.11	115	31.94	
	Ward		63	17.50	44	12.22	
	Other		17	4.72	9	2.50	0.117
10.4 Follow-up Appointment at GSH (N = 276)	Outpatients	Yes	72	26.09	80	28.99	
		No	77	27.90	47	17.03	0.015
	Physiotherapy	Yes	1	0.36	2	0.72	
		No	148	53.62	125	45.29	0.471
	Other	Yes	5	1.81	3	1.09	
		No	144	52.17	124	44.93	0.624
	Occupational Therapy	Yes	-	-	1	0.36	
		No	149	54.18	126	45.65	0.278
10.5 FUNCTIONAL AIDS (N = 241)	Spectacles	No Use	32	13.28	10	4.15	
		Has One	48	19.92	41	17.01	
		Need replacing	5	2.07	6	2.49	0.005
		Requires One	43	17.84	56	23.24	
	Hearing Aid	No Use	111	46.04	95	39.42	
		Has One	5	2.07	3	1.24	
		Needs replacing	1	0.41	0	-	0.487*
		Requires One	11	4.56	15	6.22	
	Walking Stick	No Use	89	36.93	73	30.29	
		Has One	30	12.45	27	11.20	
		Needs replacing	-	-	-	-	0.464
		Requires One	9	3.73	13	5.39	

10. HOSPITAL DETAILS			PREVIOUS OVERNIGHT ADMISSION				
			NO		YES		
			N	%	N	%	P VALUE
10.5 FUNCTIONAL AIDS (contd)	Walking Frame	No Use	127	52.70	109	45.23	
		Has One	1	0.41	1	0.41	
		Needs replacing	-	-	-	-	0.178*
		Requires One	-	-	3	1.24	
	Wheelchair	No Use	117	48.55	104	43.15	
		Has One	7	2.90	6	2.49	
		Needs replacing	-	-	-	-	0.975*
		Requires One	4	1.66	3	1.24	
	Artificial Limb	No Use	125	51.87	111	46.06	
		Has One	2	7	1	0.41	
		Needs replacing	-	0.83	-	-	0.891*
		Requires One	1	-	1	0.41	
				0.41			
	False Teeth	No Use	44	18.26	29	12.03	
		Has	65	26.97	57	23.65	
		Need replacing	-	-	1	0.41	0.189*
		Required	19	7.88	26	10.79	
	Other	No Use	124	51.45	102	42.32	
		Has	4	1.66	10	4.15	
		Needs replacing	-	-	-	-	0.091*
		Required	-	-	1	0.41	
10.6 TRANSPORT TO GSH (N = 360)	Ambulance		127	35.28	118	32.78	
	Private Car		53	14.72	48	13.33	
	Taxi		9	2.50	1	0.28	0.150*
	Train		-	-	-	-	
	Bus		1	0.28	-	-	
	Other		2	0.56	1	0.28	

* Inadequate Data in some cells: Statistical test not considered valid